User Manual

DR-3208 Matrix Switching System

Ⓥ **Before using the matrix, please read this manual carefully.**

CONTENTS

1. INTRODUCTION 1

2. PRECAUTIONS 1

3. FEATURES 2

4. SPECIFICATION 4

5. FUNCTION 5

6 PROFILE 7

7. MATRIX CONNECTION CONFIGURATION 10

8 THE MATRIX PARALLEL CONNECTION CONFIGURATION 11

9. USER LOGS IN & LOGS OUT 13

10. PROGRAM SETUP 13

11.MENU TREE 14

- 11.1 System Setup 15
- 11.2 Tours Setup 18
- 11.3 Camera Setup 19
- 11.4 Monitor Setup 21
- 11.5 Keyboard Setup 21
- 11.6 Auto Alarm Mode 22
- 11.7 Auto Alarm Setup 23
- 11.8 Alarm Control 23
- 11.9 System Salvo 25

12 KEYBOARD OPERATIONS 26

13 ERROR MESSAGES 31

14 APPENDIX 32

1. INTRODUCTION

The matrix video switcher/control system is a modular, assembled CCTV security system combining both video switching and system control functions. Each matrix system provides 32 camera inputs, 8 monitor outputs and 4-8 keyboard controllers. Digital display and screen status display are achieved through system keyboards and monitors. With RS485 port ,the system is able to control various equipments such as Pan/Tilt, lens and alarm detectors. The system is also featured with alarm linkage, auto and manual control functions.

The system can include one or several matrixes. One matrix is comprised of power module, communication module, VIM(video input module) & VOM (video output module). All the equipments in the system are controlled by a CPU and one or more keyboards.

2. PRECAUTIONS

Only qualified technician or installer is permitted to conduct the installation of this unit.

Do not block or cover the ventilation openings in the enclosure.

Place the unit at least 5cm away from the wall to prevent it from overheating.

Do not drop metallic parts into the ventilation openings.

Dropping parts will lead to unit malfunction. If this does happen, switch off the power and consult your qualified engineer or dealer to service the unit.

Do not open or remove covers yourself.

Opening or removing covers may expose you to dangerous voltage or other hazards.

There is no user serviceable part. Only qualified engineer can service the unit.

Handle with care.

Avoid excessive force or vibration to the unit, which will cause damage to it.

Keep the unit away from water or moisture.

Do not operate the unit near a wet location.

If entered water or moisture cause malfunction of the unit, switch off the power and notify qualified engineer to service the unit. Water or moisture can damage the unit that can also expose you to dangerous electric shock.

Do not use strong or abrasive detergent to clean the unit.

Use a dry soft cloth to clean the unit and remove any dust on it.

Use neutral detergent to clean the unit carefully when necessary.

Operate the unit within the required temperature, humidity ranges and under required power supply conditions.

Do not operate the unit in high temperature or humidity conditions.

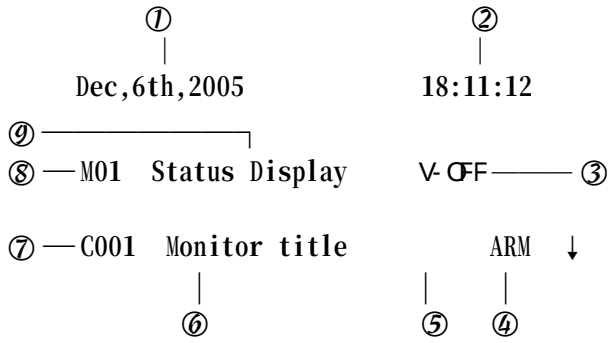
The operating environment ranges are:

Temperature : 0℃～+40℃, humidity <90%.

3. FEATURES

3.1 System Status Display on Monitor

The monitor can display the camera number, camera title, monitor number, time, date, status, alarm and error information. User can open or close the status display by press MON key after entering matrix SYSTEM MENU by 1# keyboard .



① Date Display: the selectable date display of system. Three formats are available: Asian format YY/MM/DD, International format DD/MM/YY & U.S. format MM/DD/YY.

② Time Display: the 24H time display of system.

③ Video loss: when there is video display on monitor the column displays V-ON; when there is no video display on monitor the column displays V-OFF.

④ Arming/disarming alarm: when the column displays ↑, it means the alarm area is armed; when the column displays ↓, it means the alarm area is disarmed.

⑤ Alarm signal: when ARM flashes, it means an alarm event arises in the alarm area. If ARM keeps on flashing after user responds to the alarm, the detector wire is open or short.

⑥ Monitor Title: user can edit any memerial characteres.

⑦ Camera Port Number: the number of port connecting camera to Matrix. The number is also the camera ID number.

⑧ Monitor Number: the number of matrix video output port and the number of port connecting monitor to matrix. The number is also the camera ID number.

⑨ System status display: (1)When an alarm event arises, the column displays the alarm mode and the alarm area number. The display 1 [MODE1 AREA001] means the alarm display is of Mode 1 and occurs in alarm area No.1. (2)When one monitor runs the sequential scan, the column LCD displays [SCAN xxx→xxx]. [SCAN 001→032] means the monitor is running the sequential scan from Camera No.1 to NO.32. 3)When one monitor runs the standard sequential switch, the column displays [TOUR xxx S xxx]. [TOUR 001 S640] means the monitor is running the Tour NO.1 with the current Step NO.640. 4) When one monitors display [SALVOXXX SXXX]. [SALVO001 S0640] in means the monitor is running Salvo Group No.1 with the current Step No.64.

3.2 Language Select

There are two languages available: English and Chinese.

3.3 Video Switch

The matrix can switch any video of any camera or any preset of any camera to any designated monitor to display. The hub of the system is an all-cross matrix switch which can switch 32 cameras and 8 monitors.

3.4 Independent Video Automatic Sequential Scan

The scan can display the videos automatically from the first camera to the end camera by ID number numeric sequence set by user. The video switch speed is independent and alterable.

3.5 Salvo Switch

Individual cameras can be grouped into salvo for simultaneous callup to a contiguous group of monitors. Sixty-four steps can be programmed with a maximum of sixteen groups in a salvo. The dwell time of camera is programmed. The system has SYSTEM SALVO SETUP menu to set the program.

3.6 Standard Sequence Switch

it is a group of switches of any video of any camera. The system can program and store 30 groups of standard sequence switches, including 20 groups with 128 steps each, 6 groups with 256 steps each, 2 groups with 512 steps each and 2 groups with 640 steps each. Each group can include videos of multiple cameras and the dwell time of each video is Programmable. The video can be any preset of any Camera. In a group of sequence switch, a video can be repeated as different steps. The total steps of all groups is less than 6400. The same group of sequence switch can be displayed on different monitors which do not interfere with each other.

3.7 Switch to Previous Camera

To display the video of previous camera by ID number.

3.8 Switch to Next Camera

To display the video of next camera by ID number.

3.9 Video Loss Detection

With this function, the system can detect the presence or loss of a video signal for each camera.

3.10 Automatic Alarm Switch

The system has 32 alarm inputs and 4 respondent alarm outputs. The control mode is parallel BUS control. When the system receives alarm signal ,it will switch to the video with alarm event, activate preset, auxiliary switch, video recorder and alarm sound. The alarm status information is also displayed on the monitor. The video to switch, dwell time , preset and open/close time of auxiliary switch of an alarm event can be set through menu.

3.11 System Alarm Mode

There are two modes available: Auto and Manual. When AUTO mode is selected, the system will process the alarm information automatically as per the programmed AUTO ALARM SETUP menu commands, and the system will process manual commands sent through the keyboard; When MANUAL mode is selected, the system will only process manual commands to arm/disarm alarms and the AUTO ALARM SETUP is not available now.

3.12 Arm/disarm Alarm

The system can set the time of arming & disarming alarms,which can carry out the arming/disarming commands as per the time schedule.

3.13 The Alarm Handling Mode

1) BASIC MODE: with this mode, all the alarm signals will be displayed on the designated main monitor #1. If there are multiple alarm signals, the alarm videos will be switched to the Monitor # 1 one by one. The system can store the alarm status. Even if the alarm signal is disconnected and the user does not respond to the alarm, the alarm status still exists. If the alarm signal exists all the time and the user responds to the alarm, the alarm status cannot be cleared.But the monitor will not display the alarm video.

2) AUTO-BUILD MODE: the designated main Monitor #1 and #2 will display the alarm videos. When multiple alarm signals exist simultaneously, the signals will be separated into two groups to be displayed on the monitors separately. The alarm video display on each monitor are similar to that of Basic Mode. The system can store the alarm status. Even the alarm signal is disconnected, if the user does not respond to the alarm, the alarm status still exists. If the alarm signal exists all the time, even the user responds to the alarm the alarm status cannot be cleared, but the monitor will not display the alarm video.

3) SEQUENCE DISPLAY: the designated main Monitor #1 and #2 will display the alarm videos. When multiple alarm signals exist simultaneously, the Monitor #1 will display the first alarm video that is not responded to. When the first alarm is responded to , the Monitor #1 will display the second alarm that is not done so. While monitor#2 displays circularly all the alarm videos that are not responded to. Each alarm video has a dwell time of 1 second. The system can store the alarm status. Even the alarm signal is disconnected, if the user does not respond to the alarm, the alarm status still exists. If the alarm signal exists all the time, even the user responds to the alarm the alarm status can not be cleared, but the monitor will not display the alarm video.

3.14 Alarm Clearance

There are two modes of alarm clearance: automatic clearance and manual clearance. The modes can cause the system to exit the alarm event status and return to the working status before the alarm event. The system master can authorize any keyboard (user) the right to clear an alarm. The unauthorized keyboard does not have the right. After clearing an alarm, the user will not hear the alarm sound. If the alarm event still exists, the ARM word in the alarm status display column on the monitor flashes.

1) Automatic clearance (after the alarm contact points become disconnected or connected for 20 seconds, the system will clear alarm automatically): after the alarm contact points become disconnected for 20 seconds, the alarm video will disappear from the monitor automatically. By this mode, any alarm video can be caught on time. After the first alarm video is cleared from the monitor, the next alarm video is displayed on the monitor. Under the automatic clearance mode, the user can also clear the alarm manually.

2) Manual clearance: under the manual clearance mode, the alarm video remains on the respondent monitor until the user visits the monitor through the keyboard. The master can set and authorize any keyboard the right to clear alarms; unauthorized keyboard can not clear the alarms.

3.15 Lock Functions

To reinforce the safety and reliability, the system sets lock functions specially. They are to limit the control scope of keyboards to monitors and cameras. They are two modes:

1) Lock cameras to keyboards: set which keyboard can control which cameras;

2) Lock monitors to keyboards: set which keyboard can control which monitors.

3.16 Receiver

The system sends control signals to receiver through RS-485. Receiving the signals, the receiver translates the commands to control the operations of camera, Pan/Tilt, Lens and light.

3.17 Keyboard Controller

The system can connect 8 keyboards and 1 multi-media PC controller, including all-function main keyboard controller with menu programming, multi-media PC controller and auxiliary keyboards.

3.18 Variable Speed Joystick Control

The joystick can control constant or variable speed Pan/Tilt and Dome camera. User can also use joystick to select items when editing programs.

3.19 Impedance Switch of Video

Input Impedance switch for video input: all video inputs have been connected to the terminal impedances with high or low ohm on the matrix mainboard. By using the DIP switch in the matrix user can select the high or low impedance for each video input.

3.20 Dome Camera Phase Setting

If the cameras are out of phase, vertical roll on monitor appears when user switches between cameras. The phase setting is used to set the cameras in phase so that vertical roll on monitor can be eliminated.

3.21 Storage and Memory

The system can store the latest 5 turning on time and turning off time, alarm arming time, alarm disarming time, alarm time, alarm events, and alarm clearance.

3.22 Multi-media Control

The system can connect PC through a RS232 port to transmit the information to the PC. The PC is a wholly new controller apart from the keyboard.

3.23 Communication Ports

The system provides eight groups of RS-485 BUS to connect receivers, four 6-pin RJ-11 ports to connect keyboards, and a RS232 port to connect PC.

3.24 Ports and Connectors

1) Video Input and Output: standard BNC connectors.

2) Looping Video Connection: two 34-pin flat cable ports.

3) Keyboard: four 6-pin RJ-11 ports to connect keyboards.

4) Alarm Input and Output: 32 inputs through removable screw terminal blocks. Four Normal open/Normal close relays output alarm signals.

5) RS-232 port: 9-pin D-Sub ports to connect PC. The stored information in Matrix can be transmitted to PC. At the same time, PC can control the whole system instead of keyboard.

6) RS-485 port: removable screw terminal block to connect 8 groups of 485 BUS that control all the dome cameras.

4. SPECIFICATION

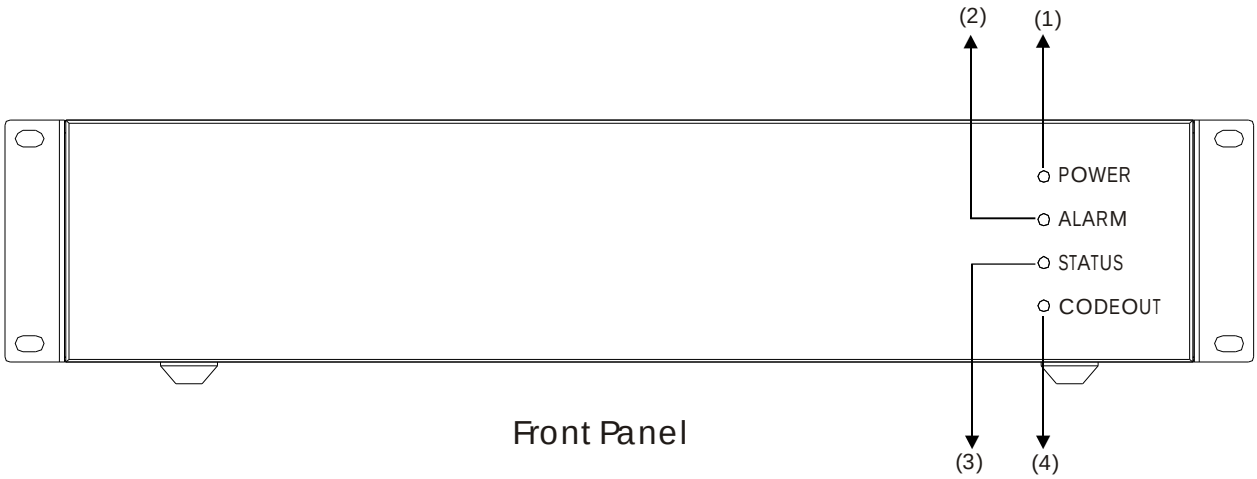
Item	Description		Item	Description
Video Inputs	Video Inputs Minimum 32 inputs.1V		Date Format	3 selectable displays
Video Outputs	8 outputs,75 (BNC)		Preset	220(each camera)
Video Specification	Frequency characteristics(-3db Band Width)	50Hz-- 80Hz	Alarm Inputs	Built in 32 inputs,Open circuit mode or short circuit mode selectable.(Can extend to 128)
	S/N Ration(Weighted)	≥52db	Alarm Display	3 selectable displays
	Differential Gain	≤0.6%	Alarm Outputs	4 relay outputs,normal open/normal close modes,30V AC/0.6A resistance load.(Can extend to 20 outputs.)
	Differential Phase	≤1.1°	RS232 Port	9-pin D-Sub connector
	Insert Gain	≤±0.5db	RS485 Port	8 RS485 Bus.Communication distance up to 1500mm.control up to 255 cameras
	Adjacent Channel Isolation Degree(Input to Input)	≥50db	Keyboard	Up to 8 keyboards can be connected to the system
	Adjacent Channel Crosstalk(Intput to Output)	≤-40db	User	Each user has his own registered password and priority
	Sychronous Nonlinear Distortion	1%	Data Store	EEPROM(96K)
	Luminance Nonlinear Distortion	1.5%	Alarm Event Record	1024 pieces of alarm events, 1024 pieces of alarm arming/disarming information and the latest 5 system turning on and turning off time.
	Intermodulation Distortion	0.5%	Automatic Switch	30 sequence, maximum 640 steps for each sequence
	Short Time Waveform Distortion	3.5%	Salvo Switch	16 sequence, maximum 64 steps for each sequence
	Cluster Frequency Delay Characteristics	6ns	Power Supply	Refer to power cable label
	Brightness/Color Time Offset	2.5ns	Operating Environment	0℃--+40℃,Humidity ＜90%
	Brightness/Color Gain Offset	8%	Power	≤30W
Video Check	to check any video loss on any monitor		Dimensions	436(L)×295(W)×90(H)mm
Title	Camera	One line 14 characters	Weight	6.5kg
	monitor	One line 11 characters		

5. FUNCTION

Functions			Descriptions
System Function	1	Keyboard registration	The system can connect 8 keyboards. Each keyboard should register one of the eight priority levels. The different priority levels (8 is the highest, 1 is the lowest) can grant different functions of the keyboard.
	2	User registration	Each keyboard can register user with different priority.
	3	Baud rate Setting	Using the keyboard joystick, the user can select the baud rates of the following items: 1.Dome camera baud rate 2.Keyboard baud rate 3.Extend portbaud rate #1 4.RS232 baud rate
	4	Clear password	The system master (the highest priority level user) can delete the passwords set by other users when necessary.
Dome Camera Control	1	Focus control	Using keyboard, user can adjust the lens focus to obtain a clear video on monitor.
	2	Zoom control	Using keyboard, user can adjust lens zoom to obtain a video with desired size.
	3	Iris control	Using keyboard, user can open or close the iris of lens to obtain a video with desired brightness.
	4	Pan/tilt control	Using the keyboard joystick, user can adjust the pan/tilt angle of the lens. User can move the joystick in eight directions: up and down, left and right, upper-left and down-left, upper-right and down-right.
Preset Control	1	Preset setting	It is to menorize the parameters of focus, zoom, pan/tilt angle of a camera video. When necessary, the preset can be recalled.
	2	Call Preset	It is to display the programmed preset.
	3	Run preset tour	It is to activate the preset tour.
	4	Delete Preset tour	It is to delete the preset tour.
Switching	1	Video switch	It is to switch any video of any camera to be displayed in any selected monitor
	2	Standard sequence switch	It is a group of sequence switched between any videos of any cameras. The system can program and store up to 30 groups of standard sequence. Each sequence can have up to 640 switch steps that include different videos of 128 cameras. The dwell time of each step can be programmed and the video can be the preset of a camera
	3	Salvo switch	The system can switch a group of videos from different cameras to be displayed on several monitors simultaneously. The function can be set through the salvo switch sub-menu.
	4	Camera sequential scan	The sequential scan tours are independent from each other
Lock Commands	1	Lock a camera	Users with different priority levels have different access rights to the locked camera (1.No right of access to the dome camera; 2.Has right of access to the video only; 3.Has right of access to the video and right of control of the dome camera).
	2	Lock a monitor	Users with different priority levels have different access rights to the locked camera (0.No right to use; 1. Has right to use).

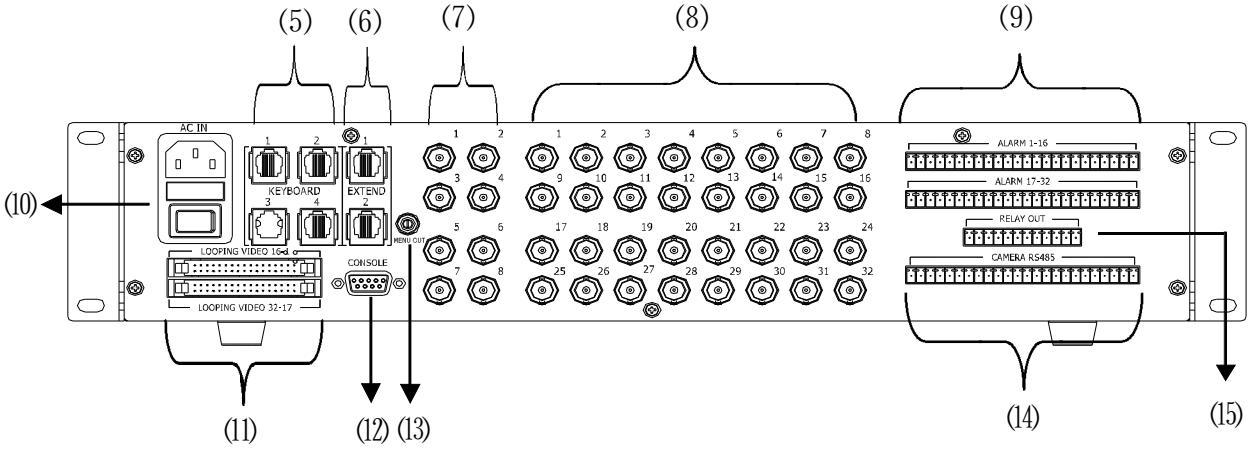
Functions			Descriptions
Alarm Functions	1	Arm/disarm alarm	Entering arm/disarm sub-menu,user can set arm/disarm time manually or automatically.The system will execute arm/disarm commands automatically as per the time schedule
	2	Alarm display mode	1.Basic Mode:it displays all alarm videos on the main monitor #1. 2.Auto-build Mode:it designates two main monitors #1&#2 to display alarm videos. When there are multiple alarms happening at the same time, the alarms will be separated into two groups to be displayed in the two monitors separately 3.Sequence&Display Mode:it designates two main monitors #1&#2 to display alarm videos. When there are some alarms happening at the same time, Monitor #1 will display and hold the first alarmed camera video until it is manually acknowledged through the keyboard. When the first video is cleared from Monitor #1,the second alarmed video will be displayed until cleared; operation continues in this manner. The display on Monitor #2 displays circularly all the alarm videos that are not responded to. And each alarm video has a dwell time of 1 second.
User Functions	1	Adjust character position	Move the joystick up and down, left and right to adjust the characters position on the monitor. 1.Adjustment of characters in OSD menu on Monitor #1. 2.Adjustment of characters in System Status Display on Monitor #1-8 separately.
	2	Set time	The format of time is 24H. Move the joystick left and right to select between data items to be set. Move the joystick up and down to count the date item up or down. User can also input data by the numeric keypad.
	3	Set date	Three date formats are available. The date setting operation is similar to time setting.
	4	Set date format	Move the joystick up or down to select the desired format. 1.U.S. Format---MM/DD/YY 2.Int'l Format---DD/MM/YY 3.Asian Format---YY/MM/DD
	5	Language select	User can choose English only, Chinese only,or English/Chinese via DIP switch.
	6	Set camera title	Enter relating sub-menu to set camera title. Move the joystick up and down to select the dome camera to be set. Move the joystick left and right to select between character items to be set. Turn the joystick clockwise to enter the character menu. Move the joystick up and down, left and right to select character; Turn the joystick anticlockwise to exit the character menu.
	7	Set monitor title	Enter relating sub-menu to set monitor title. The setting operation is similar to that of camera title setting.
	8	Set protocol	Such protocols as FACTORY,PELCO-D,PELCO-P can be selected via menu.
	9	Set channel status	Using the joystick to select camera display channel status (ENABLE or DISABLE).
	10	Revise user password	User can set a six-digit password as he wants
	11	Alarm event recording	The system can record multiple alarm events, arm/disarm alarm time and the latest 5 system turning on/off time
	12	RS232	The system can be connected with PC through a 9-pin D-Sub RS232 connector. The information of matrix system can be transmitted to PC: such as alarm information (including alarm input, alarm output and alarm response), sequence events, keyboard operating and video loss and so on. The information of event can be displayed on the PC monitor at the same time when it happens.
	13	Set Camera Phase	Select the phase of each dome camera by using the keyboard joystick (altogether seven modes available: 0°、60°、120°、180°、240°、300°、and FREE SWITCH).

6 PROFILE



Front Panel

Picture 6-1



Back Panel

Picture 6-2

6.1 Light and Connection (Refer to picture6-1)

1) POWER: lit light indicates that the power supply is normal.

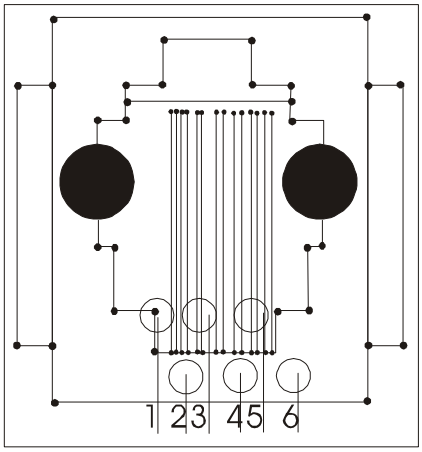
2) ALARM: lit light indicates that there is alarm event happening.

3) STATUS: flashing light indicates that the system is running normally.

4) CODE OUT: flashing light indicates that the system is sending codes out or receiving codes.

6.2 Connection (Refer to picture6-2)

5) KEYBOARD: the four ports are for 6-pin RJ11 plugs that connect keyboards. Refer to the following picture for profile and pin designation.



Pin	1	2	3
Designation	GND	GND	+
Pin	4	5	6
Designation	-	GND	+12V

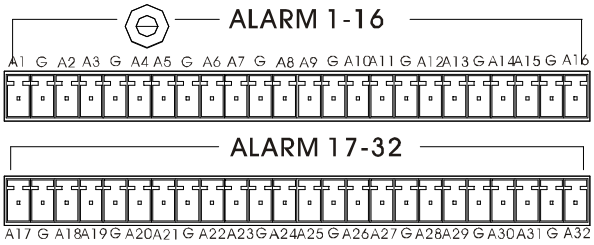
6) EXTEND: the two ports are for extension to parallel connections with other matrixes. The connector is RJ-11. Refer to Picture 6-3 for profile and refer to Form 6-1 for pin designation. Refer to Section 7.8 for connections.

Pin	1	2	3
Designation	GND	GND	+
Pin	4	5	6
Designation	-	GND	GND

7) MONITOR OUTPUTS: standard BNC connectors providing 8 video outputs.

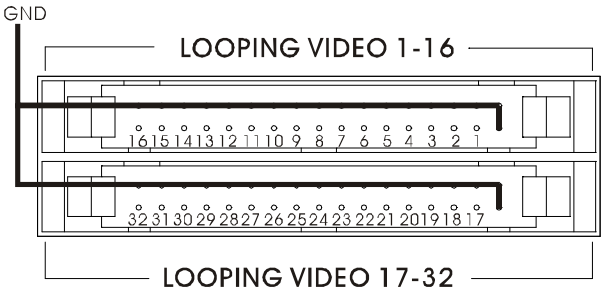
8) CAMERA INPUTS: standard BNC connectors providing 32 video inputs.

9) ALARM INPUTS: 32 alarm inputs through 12 contact removable screw terminal blocks. Refer to the following picture for profile and pin designations.

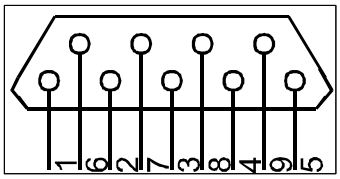


10) POWER SWITCH: Turn on/off the power.

11) LOOPING VIDEO: two 34-pin flat ribbon sockets for 32 looping video inputs and outputs. Refer to the following picture for profile and pin designations.



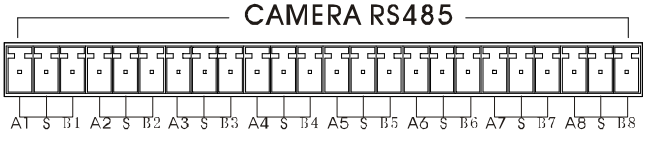
12) RS232 PORT (CONSOLE): this port is for 9-pin D-Sub, connecting PC for transmitting stored message in Matrix to it. PC can also control the whole system. Refer to the following picture for profile and pin designations.



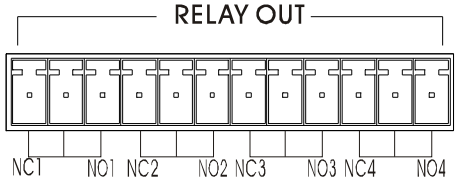
Pin	1	2	3	4	5
Designation	GND	Data in	Data out	Reserved	GND
Pin	6	7	8	9	
Designation	Reserved	Reserved	Reserved	Reserved	

13) MENU OUT:The output of the system menu.

14) RS485 PORT (CAMERA RS485): using 12 contact removable screw terminal block that connecting 8 groups of RS485 BUS outputs. Refer to the following picture for profile and pin designations. S means shield.



15) RELAY OUT: 4 relay outputs using 12 contact removable screw terminal block, two modes of normal open/normal close. Refer to the following picture for profile and pin designations.



Picture 6-8

6.3 Switch Setting

1 Matrix mainboard

1) **SW1**: This switch is for communication matching impedance setting.

- Switch bit 1,bit2,and bit 3 are not in use now and should be set as OFF.
- Switch bit 4 is set as ON, the expansion communication port is connected to matching impedance (default setting is OFF).
- Switch bit 5 is set as ON, the RS485 communication port 5 is connected to matching impedance (default setting is OFF).
- Switch bit 6 is set as ON, the RS485 communication port 6 is connected to matching impedance (default setting is OFF).
- Switch bit 7 is set as ON, the RS485 communication port 7 is connected to matching impedance (default setting is OFF).
- Switch bit 8 is set as ON, the RS485 communication port 8 is connected to matching impedance (default setting is OFF).

2) **SW2-SW5**: switches for video input high/low impedance connection setting. If one video input is connected to a terminal equipment such as monitor with high impedance, the switch bit to this video input should be set as ON with a 75 ohm impedance load; if the terminal equipment such as monitor has already been connected to a 75 ohm impedance, the switch bit to this video input should be set as OFF and this is to reach high impedance status. Refer to the following form for the switch bit number to each video input.

SWITCH NO.		8	7	6	5	4	3	2	1
VIDEO INPUT	SW2	2	26	10	18	1	25	9	17
	SW3	4	28	12	20	3	27	11	19
	SW4	6	30	14	22	5	29	13	21
	SW5	8	32	16	24	7	31	15	23

3) SW6: this group of switches are for system setting.

When Switch bit6 is set to ON,the lowercase letter is displayed in the status title ; when Switch bit6 is set to OFF,the capital letter is displayed in the status title.

Switch bit7and bit8 are set to system initialization. If they are set to ON at the same time, the system is in default factory setting and all data in the memory is restored in default factory setting. If switch bit7 is set to ON and bit8 to OFF,the system is in testing initialization.If bit7 is set to OFF and bit8 to ON,the system is in user initialization. At this time ,all data except for standard sequence switch and salvo switch are restored in default setting.

NOTE: User should set the two bits as OFF again,after completing system initialization using the two bits (self-testing is normal after turn on the power).

- Switch4\switch3\switch2\switch1 are set to working mode as follows.

	switch bit4	switch bit3	switch bit2	switch bit1
①	ON	ON	ON	ON
②	OFF	ON	ON	ON
③	OFF	ON	ON	OFF
④	OFF	ON	OFF	ON
⑤	OFF	ON	OFF	OFF
⑥	ON	ON	ON	OFF
⑦	ON	ON	OFF	ON
⑧	ON	ON	OFF	OFF
⑨	ON	OFF	ON	ON

① --Main matrix (when only one matrix is to be connected)

② --Main matrix (when two matrixes are to be connected)

③ --Main matrix (when three matrixes are to be connected)

④ --Main matrix (when four matrixes are to be connected)

⑤ --Main matrix (when five matrixes are to be connected)

⑥ --1# subsidiary matrix

⑦ --2# subsidiary matrix

⑧ --3# subsidiary matrix

⑨ --4# subsidiary matrix

4) **SW7**: this switch is for language setting as follows.

	SWITCH2	SWITCH1
Chinese/English	ON	ON
English	ON	OFF
Chinese	OFF	ON
Reserved	OFF	OFF

2 Matrix alarm board

1) SW1: this switch is for setting RS485 communication port impedance.

If switch bit 1 is set as ON, the RS485 communication port 3 is connected to matching impedance (default setting is OFF).

If switch bit 2 is set as ON, the RS485 communication port 4 is connected to matching impedance (default setting is OFF).

If switch bit 3 is set as ON, the RS485 communication port 2 is connected to matching impedance (default setting is OFF).

If switch bit 4 is set as ON, the RS485 communication port 1 is connected to matching impedance (default setting is OFF).

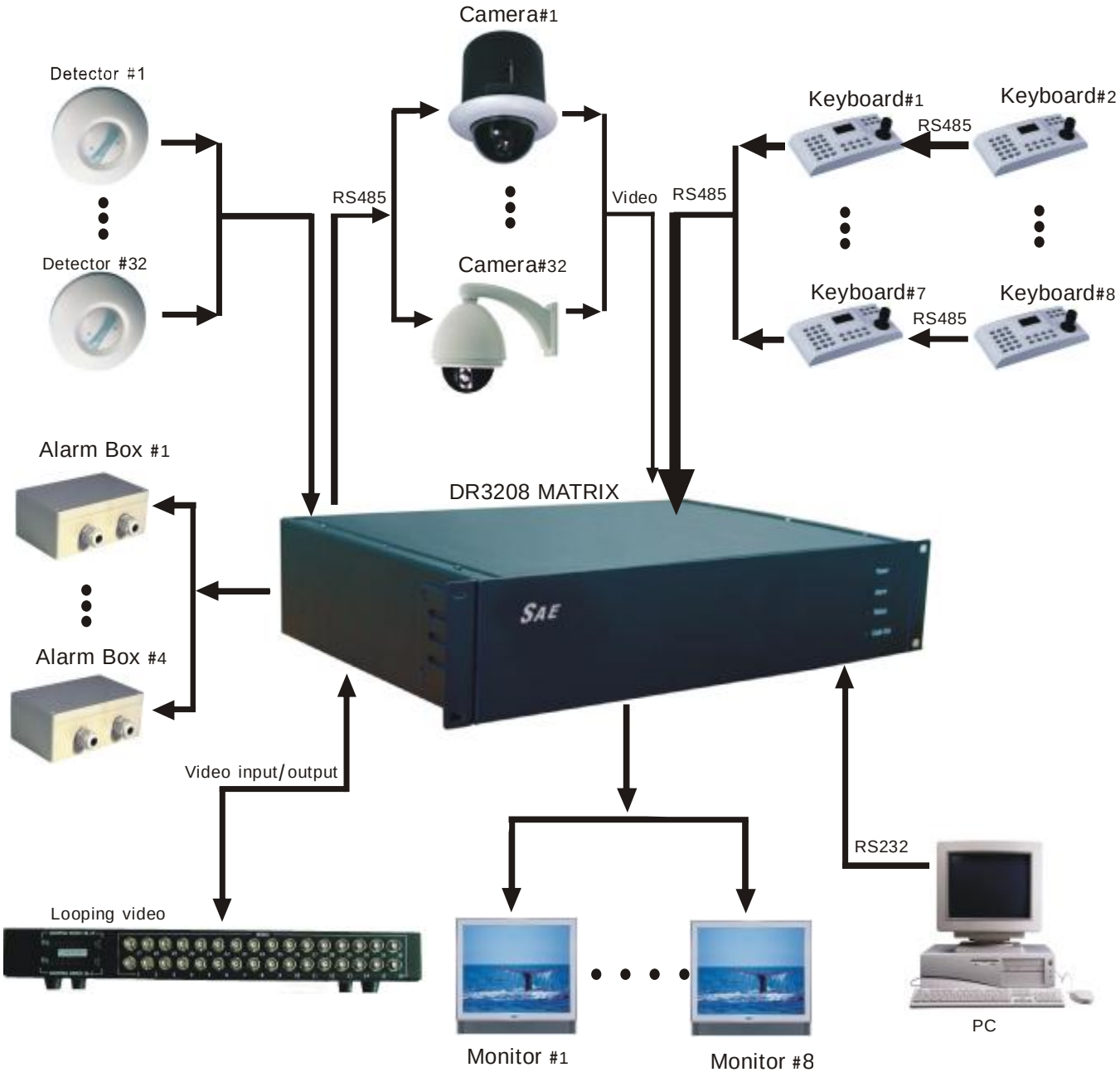
If switch bit 5 is set as ON, the RS485 communication port 5 is connected to matching impedance (default setting is OFF).

If switch bit 6 is set as ON, the RS485 communication port 6 is connected to matching impedance (default setting is OFF).

If switch bit 7 is set as ON, the RS485 communication port 7 is connected to matching impedance (default setting is OFF).

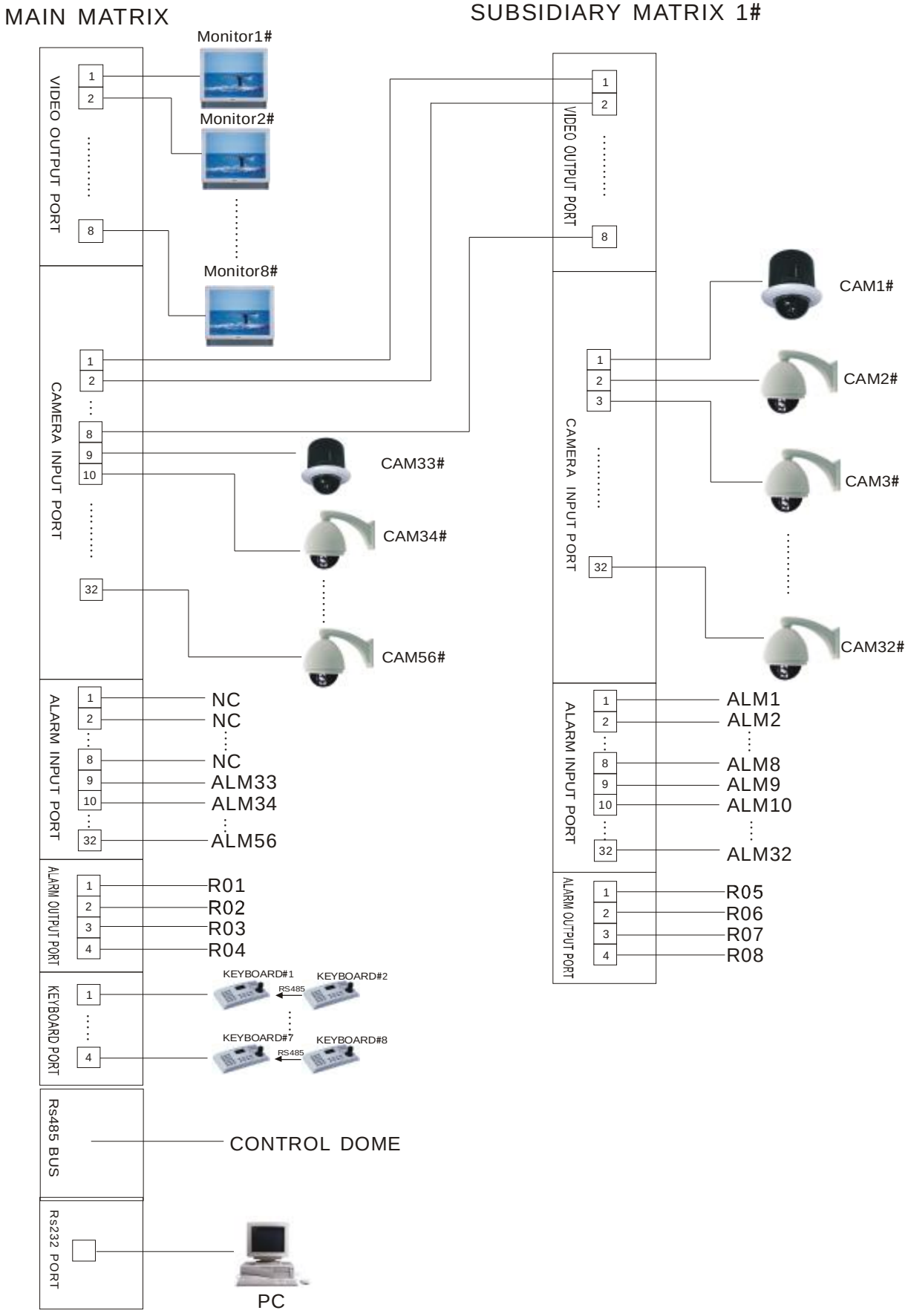
If switch bit 8 is set as ON, the RS485 communication port 8 is connected to matching impedance (default setting is OFF).

7. MATRIX CONNECTION CONFIGURATION

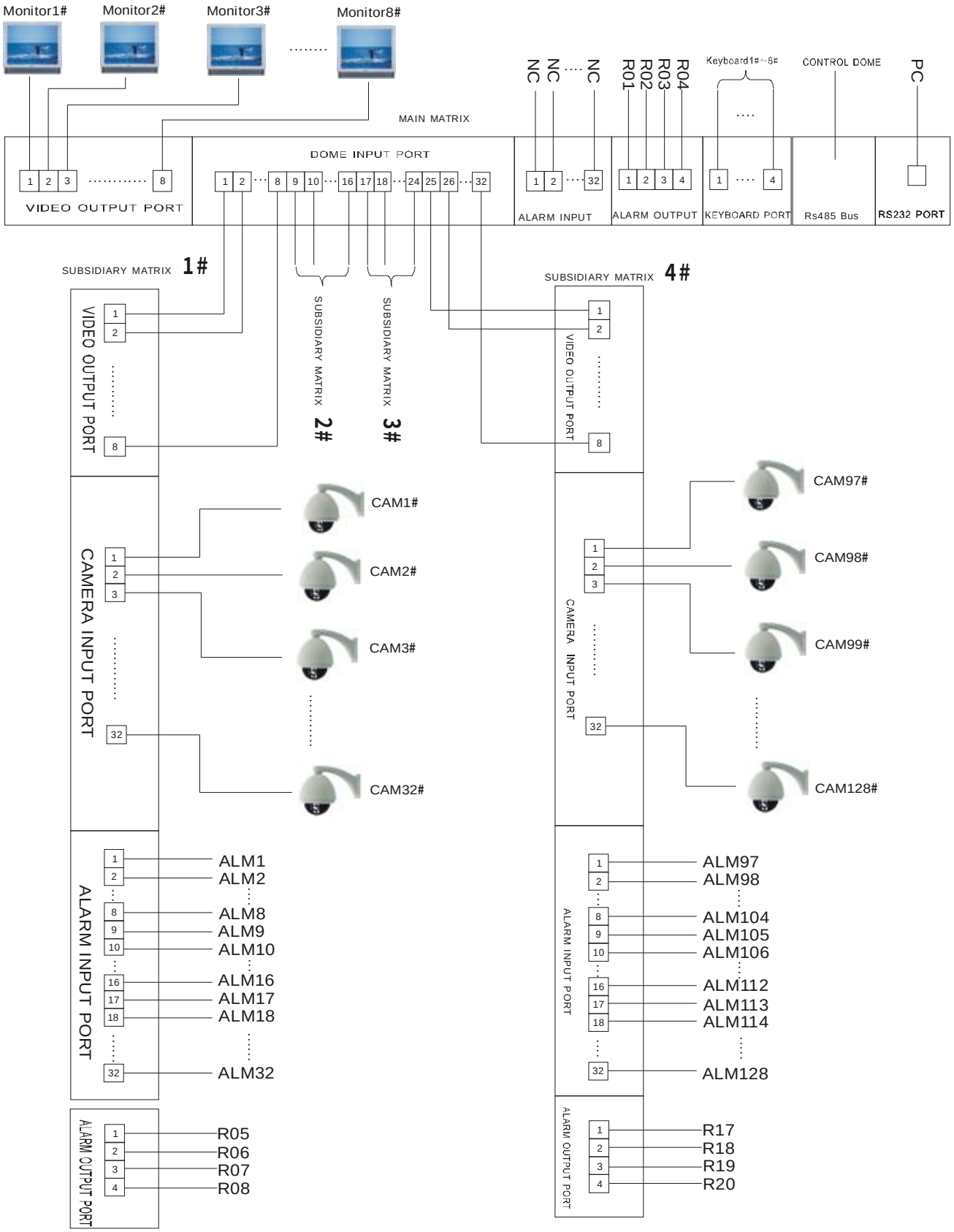


8 THE MATRIX PARALLEL CONNECTION CONFIGURATION

1. Two Matrixes are to be connected



2. Multi-Matrixes are to be connected



9. USER LOGS IN & LOGS OUT

For security purpose,operator password entry is provided to allow only authorized personnel to operate the system. The factory default password is (000000), that is, no password setting. The password enry system allows a maximum of eight users with separate passwords.

The newly purchased system or the reset system has no password (the default password 000000 means no password has been set), thus the user can enter the system directly.

System administrators can change the users' passwords according to the following steps: enter the system menu through keyboard #1 firstly, then set passwords of all the users in advance, finally allot user's password to all users after completing authority allocation. It is necessary for users to register before entering the system (refer to System Setup for password setting).

1 Administrator is able to reset users' password.

2 Operator registers in the system:As the power for the keyboard is truned on,the system then prompts to input the password alloted by the administrator to access the system ,.

3 Operator changes password: press "SHIFT-OPEN" keys,the system then prompts to change the password (the new password is for operator's using only.).

4 User logs out: press "SHIFT CLOSE" keys to reset.The keyboard screen prompts to input password by displaying "SYSTEM PASSWORD" to re-enter the system.

If you can not change the password, the possible reasons are as following:

1)Input old password is incorrect;

2) verification code is not the same as the original one.

3) New password includes non-digital character (character other than 0-9);

4) New password is the same as the old one.

10. PROGRAM SETUP

Stipulation

We set the following stipulations in order to help understand the manual.

1.The stipulations are only effective to this chapter (Program Setup)

2. The key commands connected by "-" mean that user should press the keys in front of "-" first, and press the key after "-" later. For example: "1"(camera number) -"CAM" - "OPEN" means pressing"1" firstly, secondly "CAM", lastly "OPEN".

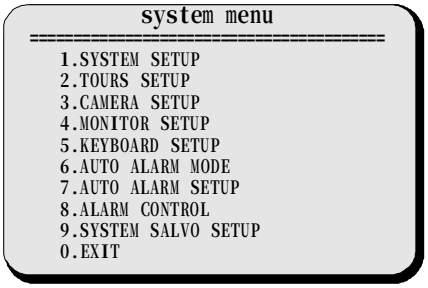
3. Turning the joystick clockwise is the same function of pressing TELE on the keyboard. Turning the joystick anti-clockwise is the same function of pressing WIDE on the keyboard.

4. Press CLOSE button to exit SETUP MENU at any time in the process of all operations.

5. All the following operations are completed by keyboard #1 with display on Monitor#1.

SYSTEM MENU provides the control functions that can not be done by direct manual control operations. For a user, the access to SYSTEM MENU is limited by its priority level.

Enter SYSTEM MENU: press SHIFT-SET keys. The SYSTEM MENU will be displayed on Monitor #1 as following picture shows. The following operation is applicable to SYSTEM MENU.



- Joystick: to move the cursor to the desired item; move the joystick right to enter the setting.
- ENTER key: to confirm the operation or selection.
- Numeric keypad: to input digits to select desired items.
- Exit SYSTEM MENU: Press the numeric 0 button or move the cursor to 0 or directly press CLOSE button to close the menu. Return to 0 in the previous menu to exit.

The SYSTEM MENU is comprised of the following item as the above picture shown: SYSTEM SETUP, TOURS SETUP, CAMERA SETUP, MONITOR SETUP, KEYBOARD SETUP, AUTO ALARM MODE, AUTO ALARM SETUP, ALARM CONTROL, SYSTEM SALVO SETUP.

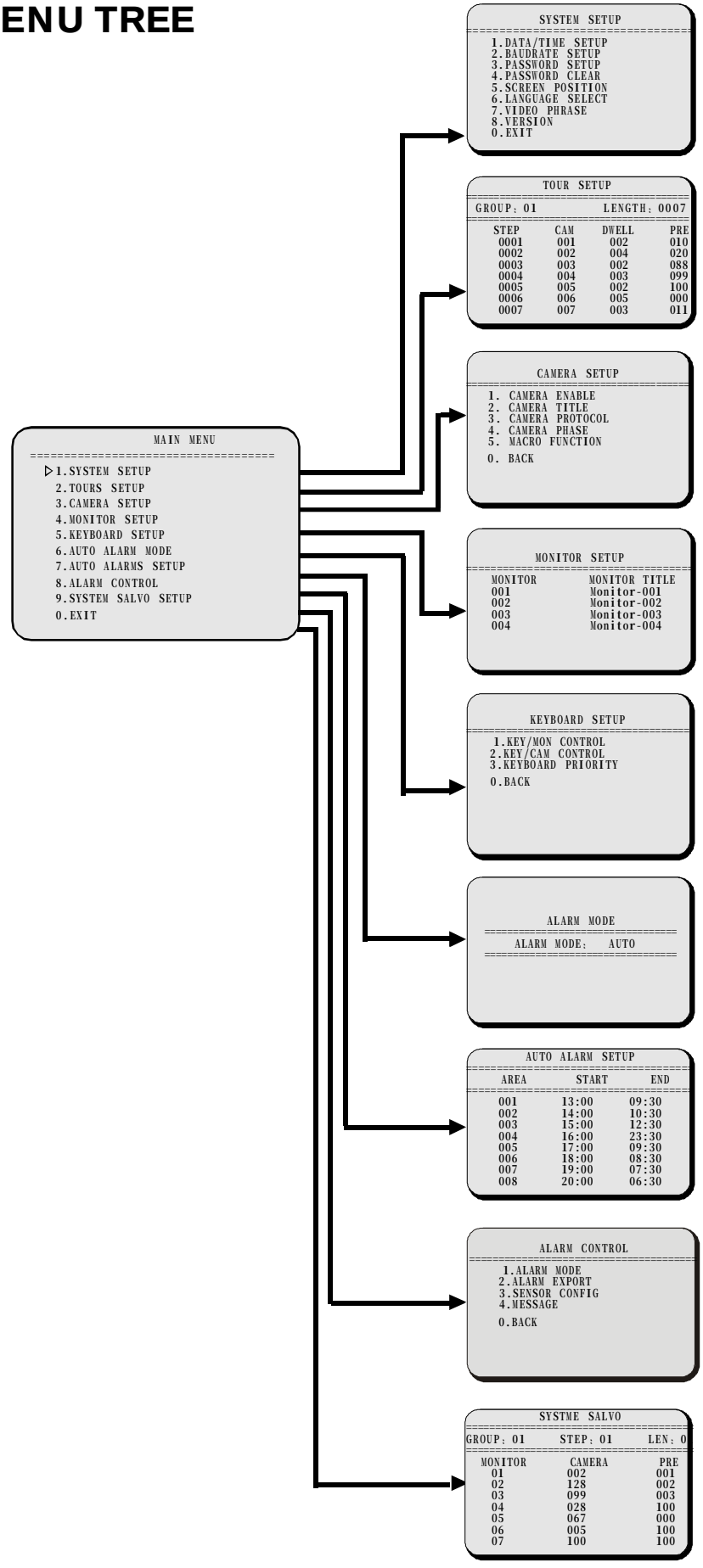
Select any one of nine items from the menu as the above picture shown.

To select one item from the SYSTEM MENU:

1. Move the joystick up or down to make the cursor to the desired item,and then move it right to access the setting item or directly input the item number using the numeric keypad on the keyboard;

2. If no item is needed to change,press the numeric 0 button or move the joystick up and down to make the cursor position to 0, and then move it right or press CLOSE button to quit SYSTEM MENU.

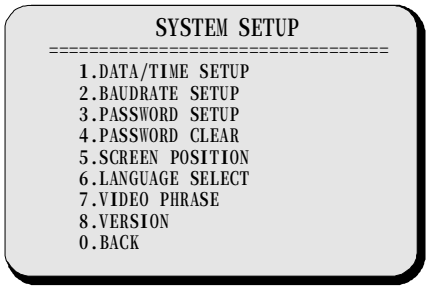
11.MENU TREE


MAIN MENU
▷1.SYSTEM SETUP
2.TOURS SETUP
3.CAMERA SETUP
4.MONITOR SETUP
5.KEYBOARD SETUP
6.AUTO ALARM MODE
7.AUTO ALARMS SETUP
8.ALARM CONTROL
9.SYSTEM SALVO SETUP
0.EXIT
SYSTEM SETUP
1.DATA/TIME SETUP
2.BAUDRATE SETUP
3.PASSWORD SETUP
4.PASSWORD CLEAR
5.SCREEN POSITION
6.LANGUAGE SELECT
7.VIDEO PHRASE
8.VERSION
0.EXIT
TOUR SETUP
GROUP: 01 LENGTH: 0007
STEP CAM DWELL PRE
0001 001 002 010
0002 002 004 020
0003 003 002 088
0004 004 003 099
0005 005 002 100
0006 006 005 000
0007 007 003 011
CAMERA SETUP
1. CAMERA ENABLE
2. CAMERA TITLE
3. CAMERA PROTOCOL
4. CAMERA PHASE
5. MACRO FUNCTION
0. BACK
MONITOR SETUP
MONITOR MONITOR TITLE
001 Monitor-001
002 Monitor-002
003 Monitor-003
004 Monitor-004
KEYBOARD SETUP
1.KEY/MON CONTROL
2.KEY/CAM CONTROL
3.KEYBOARD PRIORITY
0.BACK
ALARM MODE
ALARM MODE: AUTO
AUTO ALARM SETUP
AREA START END
001 13:00 09:30
002 14:00 10:30
003 15:00 12:30
004 16:00 23:30
005 17:00 09:30
006 18:00 08:30
007 19:00 07:30
008 20:00 06:30
ALARM CONTROL
1.ALARM MODE
2.ALARM EXPORT
3.SENSOR CONFIG
4.MESSAGE
0.BACK
SYSTME SALVO
GROUP: 01 STEP: 01 LEN: 0
MONITOR CAMERA PRE
01 002 001
02 128 002
03 099 003
04 028 100
05 067 000
06 005 100
07 100 100

11.1 System Setup

Please refer to page 14 about the SYSTEM SETUP menu .

The System Setup menu provide the means to define DATA/TIME SETUP, BAUDRATE SETUP, PASSWORD SETUP, PASSWORD CLEAR, SCREEN POSITION, LANGUAGE SELECT,VIDEO SETUP and VERSION.



To select an entry from the System Setup menu:

1) Move the joystick to make the cursor to the desired line ,and then move it clockwise;

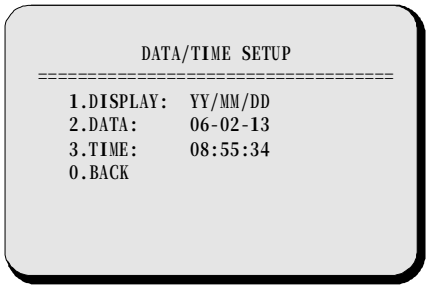
or

Enter the number (1-8) for the desired line.

2) The BACK means to return to the previous menu.

1. Date/Time setup

Use the Date/Time,below,to set DISPLAY (Asia Mode YY/MM/DD, Int'l Mode DD/MM/YY & USA Mode MM/DD/YY), DATE, TIME



DISPLAY: Select the system date format for display.

1. Place the cursor to the DISPLAY line.

2.Move the joystick up and down to select the format.There are three format available:

- Asia Mode YY/MM/DD
- Int'l Mode DD/MM/YY
- USA Mode MM/DD/YY

DATE:Display the date in the format selected(above).

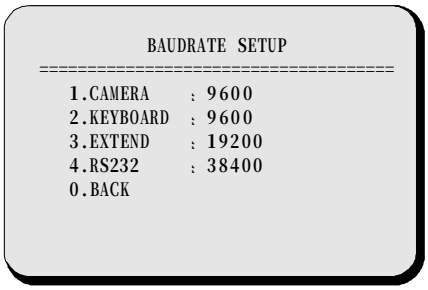
TIME: Display the time,in 24-hour format,as HH:MM:SS(hour: minute:second)

NOTE: When changing the DISPLAY mode, the second item DATA will change accordingly. TIME mode remains as 24H.

BACK: returns to the previous menu.

2. Baud rate setup

Use BAUDRATE SETUP menu,below,to set the baud rate of CAMERA, KEYBOARD, EXTEND, RS232.



1) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.;

2) After entering the setting, move the joystick up and down to set the data.

3) Turn the joystick anticlockwise to exit the setting. If there is other item to be set, repeat the above steps.

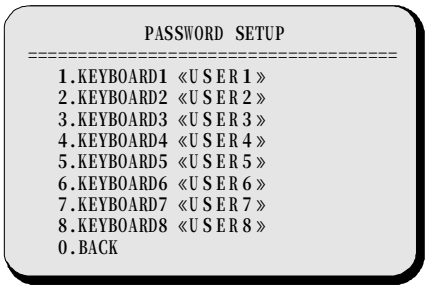
4) If no item is needed to change,press the 0 numeric button or move the joystick up and down to make the cursor position to 0, and then move it right to return the previous menu..

NOTE: If there is power cut during the setting, the revised data will not be saved.

NOTE: When revising the baud rate of the keyboard (only to be 9600 or 19200), the system will automatically exit menu after a BEEP sound. Baudrate of keyboard must be the same as that of system.

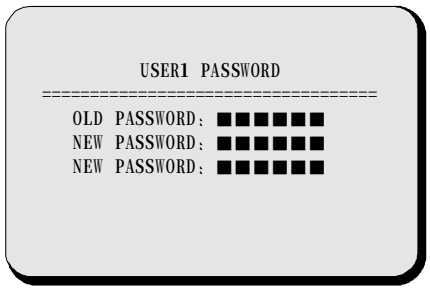
3. User password setup

This function is used to configure each of eight priority levels,to set priority levels for keyboards or users ,and to set user password.The default password is a maximum of six digits. The PASSWORD SETUP setting is displayed as following picture shown.



The setting procedures are as follows:

1) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.



2) Input the OLD PASSWORD, NEW PASSWORD, and confirm NEW PASSWORD, finally press ENTER.(If the password is changed successfully, the system will indicate PASSWORD UPDATE SUCCEED and return to the previous menu automatically. If not , the system will remain in the page of PASSWORD UPDATE FAIL .

3) Repeat above steps to change other settings.If no item is needed to change,press the 0 numeric button or move the joystick up and down to make the cursor position to 0,and then move it right to return the previous menu.

NOTE: User should input these three passwords one by one at the one time, then press ENTER button to confirm them.

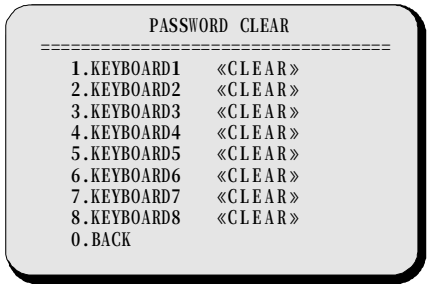
NOTE: If moving the joystick left during the password modification, the system will return to the previous menu and the modification is failure.

If you can not change the password, the possible reasons are as following:

- Input old password is incorrect;
- The new password and the confirmed new password are not matched.
- New password is not the same as the old password.

4. Clear user password

The system administrator has the authority to clear passwords set by lower level users if necessary. Enter the PASSWORD CLEAR menu as the following picture shows.



The setting procedures are as follows:

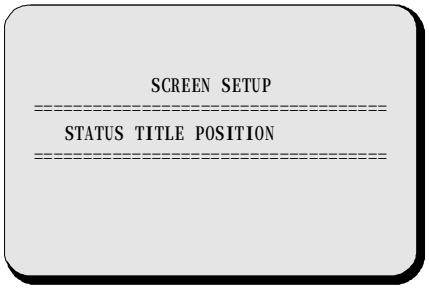
1) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.

2) Press ENTER button to clear this user. Move the joystick anti-clockwise to reserve this user and quit the setting.

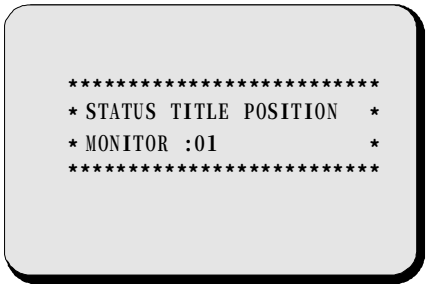
3)Repeat the above steps to clear other passwords if necessary. Otherwise, press the 0 numeric button or move the joystick up and down to make the cursor position to 0,and then move it right to return the previous menu. .

5. Screen position setup

It is to adjust the character position displaying on the screen, as the status title is displayed on the monitor.Refer to picture 9-1-7.



The displaying position of the status title is as follows:



1)Move the joystick clockwise to ente this setting.

2)Move the joystick up or down to select the monitors(1-8),and then move it clockwise to access this setting.Move the joystick up,down,left or right to adjust the displaying position of the status title on the screen.

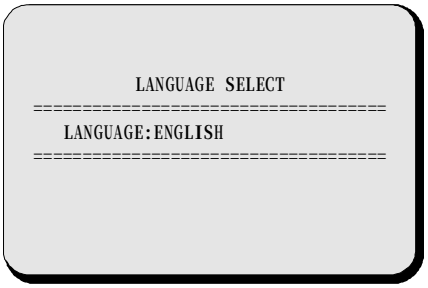
3)Move the joystick anti-clockwise to complete this setting.Repeat above steps to change other settings.After completing,move the joystick anti-clockwise to quit and return the previous menu.

NOTE: The corresponding changes will be occurred on the corresponding monitor in the process of adjusting.

NOTE: The editing window is consistent with the title position on the monitor.

6. Language Select

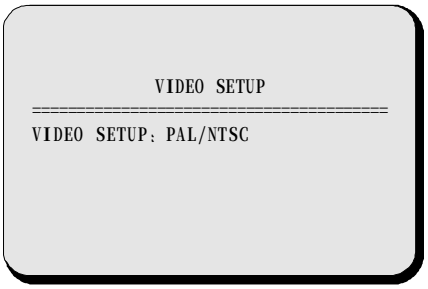
There are two language available:English and Chinese. User can select English only, Chinese only, or English/Chinese mode via DIP switch. The following picture will display on the screen.



7. Video Setup

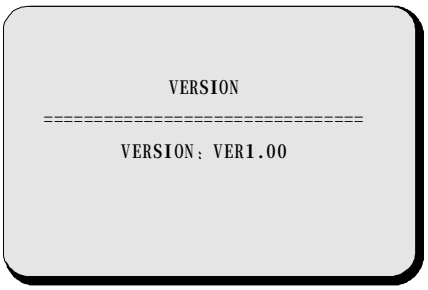
This function allows the user to adjust video module. There are two video modules available: PAL and NTSC.

Move the joystick up and down to select the module,and then move it left to return to previous menu.



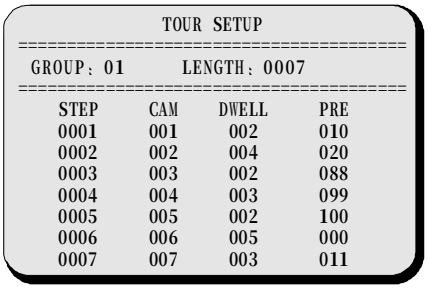
8. Version

This is used to check the version number. Move the joystick left to return previous menu.



11.2 Tours Setup

1) Select TOURS SETUP,and then the following list is displayed on the screen.



TOUR SETUP

GROUP: 01 LENGTH: 0007

STEP	CAM	DWELL	PRE
0001	001	002	010
0002	002	004	020
0003	003	002	088
0004	004	003	099
0005	005	002	100
0006	006	005	000
0007	007	003	011

This list is used to edit or program switching sequence. The system can set and program 30 different switching sequences each of which has a maximum of 640 steps.Meanwhile, each step is the video of any camera.The same video is possible to appear many times in one sequence.

GROUP n: sequence number (1-30 groups).

LENGTH n: the steps in the sequence (1-640 steps).

STEP: step number (1-640 steps).

CAM: camera number of each step (1-32).

DWELL: dwell time of each step video (1-254 seconds).

PRE: preset number of each camera (0-220, 0 designate the current video).

2) After entering the TOURS SETUP menu, the GROUP number setting is flashing. Move the joystick up and down to select group number (1-30) ,and then turn it clockwise to enter the sequence list.

NOTE: If the sequence has been edited (with steps), the steps will be displayed. If not , only LENGTH 0000 will be displayed (no steps); now if turning the joystick clockwise, user can add one step with default setting as 0001 000 000 000; the LENGTH is displayed as LENGTH 0001.

3) After entering the TOURS SETUP menu, move the joystick up and down to select STEP number,and then turn it clockwise to enter the settings of CAM, DWELL, PRE.

4) Move the joystick left or right to the desired item, and change the value using the numeric keypad or moving the joystick up or down.

5) Turn the joystick anticlockwise to exit the setting of the current step.

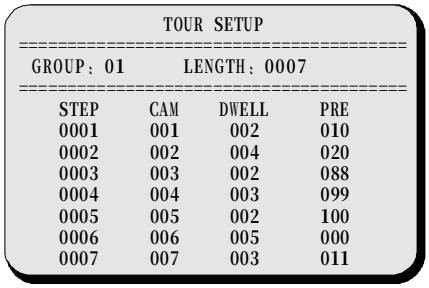
6) Insert a step: move the joystick to select the step that is to be inserted after.Take STEP0005 for example,press the NEXT key on the keyboard for more than 2 seconds,that is, insert a step STEP0006 after STEP0005. The STE0005 and the above steps remain unchanged,whereas the original numbers of all the steps after STEP0005 will be changed by adding 1 and remain the original settings . The inserted STEP0006 has the original data as 0006(STEP), 001(CAM), 001(DWELL), 000(PRE) , so the user should set the CAM, DWELL, PRE data. After the insertion, the LENGTH number will be changed by adding 1.

7) Delete: move the joystick to delete the step. Take STEP0005 For example, press PREV key on the keyboard for more than 2 seconds to delete STEP0005. The 4 steps before the original STEP0005 remain unchanged, whereas the step numbers after the original STEP0005 will be changed by decreasing 1.

8)After completing all the above settings, turn the joystick anticlockwise to return the GROUP number selection menu.

9)Select another GROUP number and repeat above steps to edit if necessary.Turn the joystick anticlockwise to complete the setting and quit.

Take the following step for example: there are 7 steps for GROUP01.



TOUR SETUP

GROUP: 01 LENGTH: 0007

STEP	CAM	DWELL	PRE
0001	001	002	010
0002	002	004	020
0003	003	002	088
0004	004	003	099
0005	005	002	100
0006	006	005	000
0007	007	003	011

Step 1: Camera No.1 Dwell Time: 2 seconds Preset No: 10

Step 2: Camera No.2 Dwell Time: 4 seconds Preset No: 20

Step 3: Camera No.3 Dwell Time: 2 seconds Preset No: 88

Step 4: Camera No.4 Dwell Time: 3 seconds Preset No: 99

Step 5: Camera No.5 Dwell Time: 2 seconds Preset No: 100

Step 6: Camera No.6 Dwell Time: 5 seconds Preset No: 0

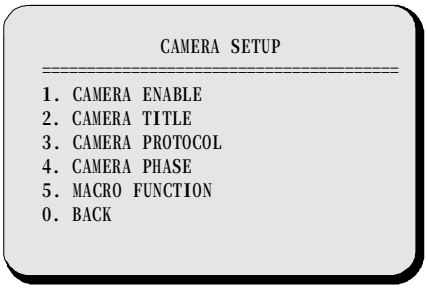
Step 7: Camera No.7 Dwell Time: 3 seconds Preset No: 011

OPERATION: After entering the TOUR SETUP menu, the GROUP number setting is flashing. Input 1 in the editing area by using the numeric keypad or by moving the joystick up and down to select, thus the GROUP01 sequence number is set. Press ENTER or turn the joystick clockwise to set in details. Move the joystick up and down to select each step number. For example, firstly turn the joystick clockwise to access the editing area, and then turn it left or right to select such items as CAM, DWELL, and PRE,after that ,change their valur using the numeric keypad or moving the joystick up or down,finally turn the joystick anticlockwise to complete and quit this setting.The above operation is applied to set the following five steps. Turn the joystick anticlockwise to exit after completing all settings.

10) Pagedown: It is achieved by pressing PREV/NEXT. The value of the cursor is automatically adding to ± 8. If the cursor is not fixed in the last step of the last page, it will automatically move forward and flash in the last step.

11.3 Camera Setup

Select CAMERA SETUP,and then the following menu is displayed on the screen.



The CAMERA SETUP is comprised with CAMERA ENABLE (dome usage status setting), CAMERA TITLE (title setting), CAMERA PROTOCOL (protocol setting) and CAMERA PHASE(phase setting) and MACRO FUNCTION as above picture shown.

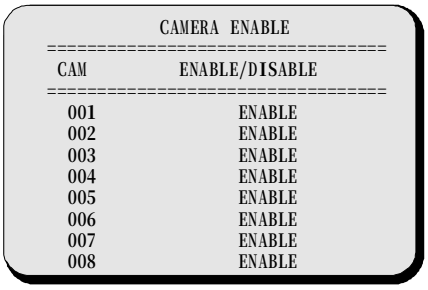
2) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.

3)Turn the joystick anti-clockwise to quit after completing the setting.Repeat the above operation to change other settings if necessary.

4) Repeat above steps to change other settings.If no item is needed to change,press the 0 numeric button or move the joystick up and down to make the cursor position to 0,and then move it right to return to the previous menu.

1. Camera Enable

Enter the CAMERA ENABLE menu as the following picture shown. Camera Enable is desingated the using status of each camera channel.



The setting procedures are as follows:

1) Move the joystick up and down to select different camera channel(press NEXT/PREV to turn over the page automatically), and then move it up and down to select ENABLE/DISABLE。Turn the joystick clockwise to return previous menu.

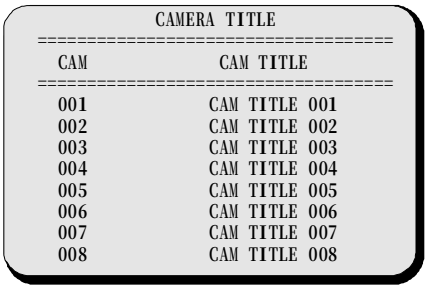
ENABLE: The camera channel is opened and the camera is in use.

DISABLE:The camera channel is not opened and the camera is not in use.

2) Move the joystick anti-clockwise to return to the previous menu after completing.

2. Camera Title

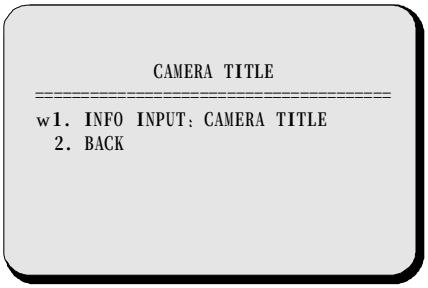
Enter the CAMERA TITLE menu as the following picture shown. Camera Title allows the user to set the title for the camera.



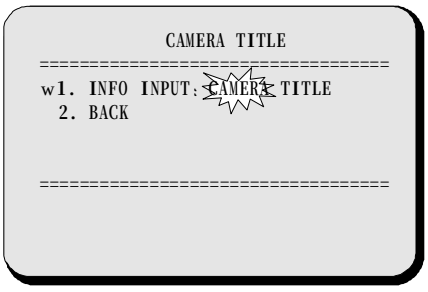
The setting procedures are as follows:

1) Move the joystick up and down to select different camera. Press NEXT/PREV to turn over the page automatically. Each page can display 8 titles. When moving the cursor to the top or end of each page, if user still move the joystick up or down, the system will turn over the page automatically. After selecting camera number, turn the joystick clockwise to enter the setting of title characters.

2) Move the joystick left and right to select INFO INPUT,and then move it right.Now the INFO INPUT setting is flashing.

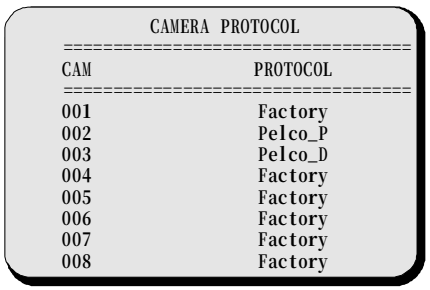


3)Move the joystick down to edit camera title.The input methods are number input, english letter input,symbol input and PinYin input available .The user can turn the joystick clockwise/anti-clockwise or press the TELE/WIDE button to choose them.



3. Camera Protocol

Selec CAMERA PROTOCOL,and then the following picture is displayed on the screen.



The setting procedures are as follows:

1) Move the joystick up and down to select camera . Each page will display eight cameras. When moving the cursor to the top or end of the page, user can move the joystick up or down to turn over the pages.Press NEXT/PREV to pagedown or pageup.

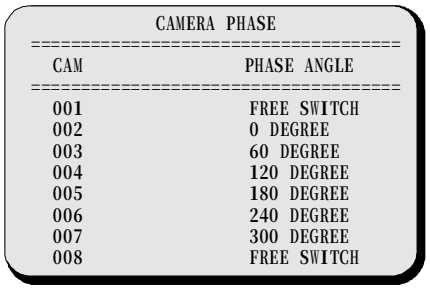
2) After selecting the camera, turn the joystick clockwise to select the protocol,and turn it anti-clockwise to quit this setting.

3)Repeat the above steps to complete the protocol settings of all cameras.

4)Move the joystick anti-clockwise to return previous menu, if no item is needed to change.

4. Camera Phase

Select CAMERA PHASE,and then the following picture is displayed on the screen.



1) Move the joystick up and down to select camera . Each page will display 8 camera. When moving the cursor to the top or end of the page, user can move the joystick up or down to turn over the pages.Press NEXT/PREV for pagedown or pageup.

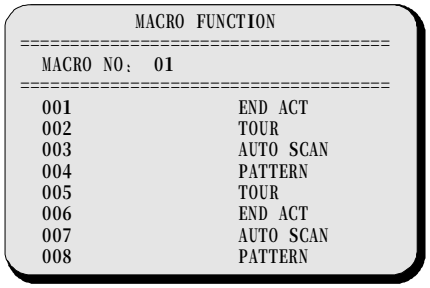
2) After selecting the camera, turn the joystick clockwise to select camera phase,and turn it anti-clockwise to quit this setting.

3) Repeat the above steps to complete the phase settings of all the domes;

4) Move the joystick anti-clockwise to return to the previous menu, if no item is needed to change.

5. Macro Function

Select MACRO FUNCTION ,and then the following picture is displayed on the screen.



This function allows a group of cameras to carry out designated operations.The setting procedures are as follows:

1. Move the joystick up and down to select MACRO #, or directly input the item number using the numeric keypad on the keyboard to select,and then move the joystick right to enter the setting of MACROFUNCTION.

2. Move the joystick up and down to select the camera, and then move it right to enter MACRO FUNCTION setting,which includes TOUR, AUTO PAN, PATTERN, NO_ACT or END_ACT.

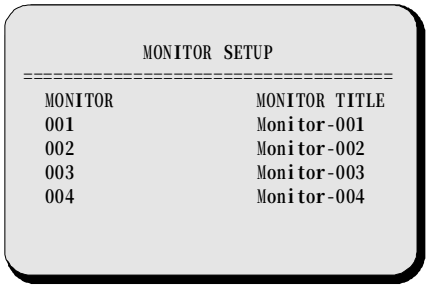
The actions run by TOUR, AUTO PAN, or PATTERN should be set previously and run at least one time. The speed of running TOUR or AUTO PAN is same as the speed of the latest time of running this function.

3.Repeat the above steps to set all the MACRO FUNCTIONs.(A maximum of MACRO FUNCTION is eight.)

4.If there isn't any item needed to be modified, move the joystick left to return to the previous menu.

11.4 Monitor Setup

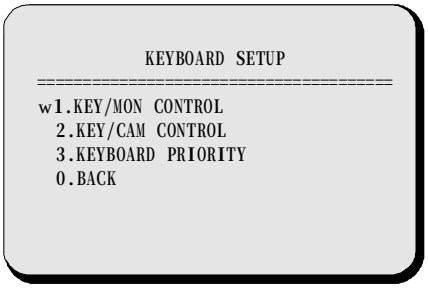
Select MONITOR SETUP,and then the following picture is displayed on the screen.



This function allows the user to edit the monitor title.The method is the same as Camera title.The maximum of monitor title is eight.

11.5 Keyboard Setup

Select KEYBOARD SETUP,and then the following picture is displayed on the screen.



The setting procedures are as follows:

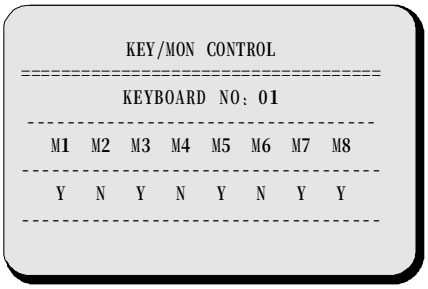
1) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.

2) Move the joystick anti-clockwise to quit after completing the current setting.Repeat the above steps to modify other settings if necessary.

3) If no item is needed to change,press the 0 numeric button or move the joystick up and down to make the cursor position to 0, and then move it right to return the previous menu.

1. Keyboard /Monitor Control

Enter the KEY/MON CONTROL MENU as the following picture shown. This sets that the monitors is controlled by a certain keyboard



The setting steps are as follows:

1) Move the joystick up and down to select keyboard number., and turn it clockwise to enter the setting of the controllable keyboards.

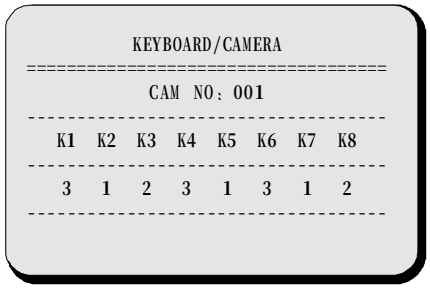
2) Move the joystick up and down to adjust the control status of the keyboards (Y or N). Turn the joystick clockwise or anticlockwise to select monitor numbers.

- Y means the monitors can be controlled by the keyboard .
- N means the monitors cannot be controlled by the keyboard.

3) If no item is needed to change,press the 0 numeric button or move the joystick up and down to make the cursor position to 0, and then move it right to return to the previous menu.

2. Keyboard / Camera Control

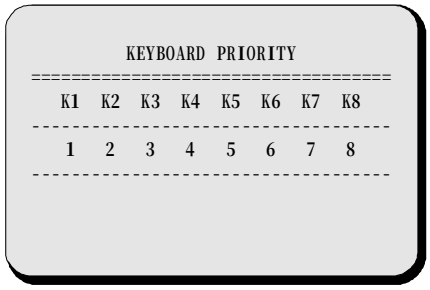
Enter the KEY/CAM CONTROL MENU as the following picture shown.



This function allows the user to designates a certain keyboard for the using authority of the keyboard .Take the above picture for example,as for camera 1,keyboard 1, 4 and 6 have designates that for a certain camera No.1, keyboards # 1,4,6 have the right level 3 to control, keyboards # 2,5,7 have the right level 1 to control, and keyboard # 3,8 have the right level 2 to control.(1. No right of access to the dome camera;2. Has right of access to the video only; 3. Has right of access to the video and control of the dome camera.)

3. Keyboard priority setup

Enter the KEYBOARD PRIORITY submenu as the following picture shows. This function stipulates the priority level of each keyboard.



The setting procedures are as follows:

1) Move the joystick up and down to adjust priority level. Turn the joystick clockwise or anticlockwise to select keyboard.

2) If there is no other item to be set, move the joystick left to return previous menu.

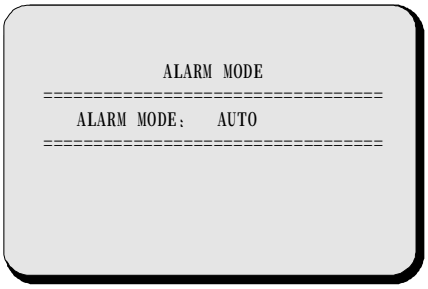
NOTE:Among the keyboard one to eight, the keyboard one has the lowerst priority level and the keyboard eight has the highest priority level.

11.6 Auto Alarm Mode

Enter AUTO ALARM MODE submenu as the following picture shows to set alarm arming mode:

MODE1: MANUAL.

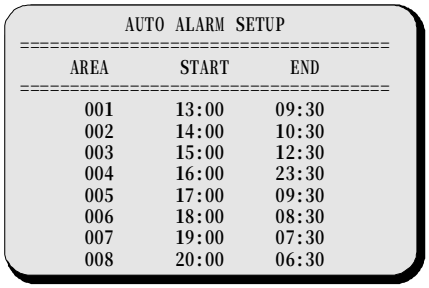
MODE2: AUTO.



Move the joystick up and down to select,and then move it anit-clockwise to return to the previous menu.

11.7 Auto Alarm Setup

Enter the AUTO ALARM SETUP submenu as the following picture shown. There are two modes to arm alarms: AUTO or MANUAL. When AUTO mode is selected, the alarm information is automatically activated in accordance with the programmed AUTO ALARM SETUP commands, meanwhile the system will respond to manual arm/disarm commands. When MANUAL mode is selected, the system arm/disarm is carried out mannually.The AUTO ALARM SETUP is void now.



1) Move the joystick up and down to select different alarm areas (1-128). Each page displays eight alarm areas. When user moves the joystick to the top or the end of the page and still moves the joystick up or down, the system turns to the previous or next page automatically.

2) After selecting alarm area, turn the joystick clockwise to enter the arming /disarming time setting.

3) Move the joystick left and right to select the desired items,and then move it up and down to modify,or directly input the item number using the numeric keypad on the keyboard to do it.

4)Move the joystick anticlockwise to quit after completing the setting. Repeat the above steps to set other alarm areas if necessary.

5) Move the joystick anticlockwise to return previous menu,if no item is needed to change.

AREA: alarm area sequence number.

START: the time to arm an alarm (24H).

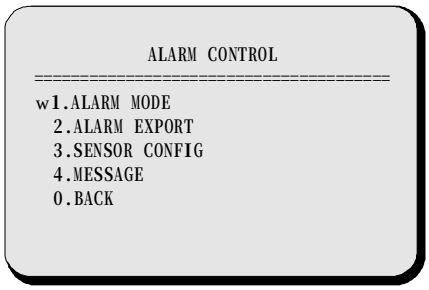
END: the time to disarm an alarm (24H).

EXAMPLE: To arm an alarm at 13:00 the first day and disarm it at 9:30 the second day on alarm area 001, the operation is as follows:

Enter the AUTO ALARM SETUP submenu, move the joystick up and down to select alarm area 001, and then turn it clockwise to enter START item, input 13:00 using the numeric keypad or move the joystick up and down to select data,after that move the joystick to enter END item, input 09:30. Turn the joystick anticlockwise to return to the AREA item, move the joystick up and down to select another AREA number. After completing all the operation, move the joystick left to return previous menu.

11.8 Alarm Control

Select ALARM CONTROL,and then the following picture is displayed on the screen.

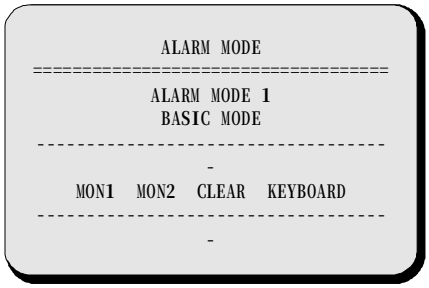


1) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.

2) If no item needs to be changed,press the 0 numeric button or move the joystick up and down to make the cursor position to 0, and then move it right to return the previous menu.

1. Alarm mode

There are three modes available: BASIC MODE,AUTO-BUILD MODE AND SEQUENCE DISPLAY.



The setting procedures are as follows:

1) After entering the Alarm Mode item, move the joystick up and down to select the desired mode.

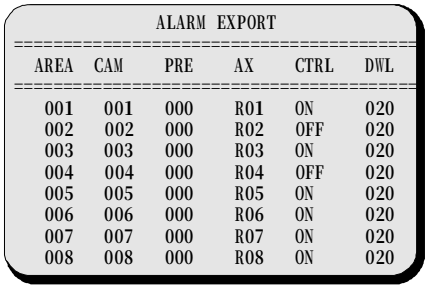
2) After selecting alarm mode, turn the joystick clockwise to display the detailed setting list of each mode. Move the joystick left and right to select the desired position,and then move it up and down to set the value.

3) Move the joystick anticlockwise to return ALARM MODE.

4) Move the joystick anticlockwise to return previous menu, if no other settings are modified.

2. Alarm Export

Enter ALARM EXPORT submenu as the following picture shown.



This list is used to program or edit alarm output control. Alarm output control refers to the operations of dome cameras in the alarm area and the driving of periphery equipments, when alarm event is carried out.

AREA: alarm area sequence number (1-32).

CAM: camera number (1-32).

PRE: the preset number of camera (0-220, 0 designates the current video).

AX: relay number (R1-R4).R01 and R03 mean to respond one by one according to the order;R02 and R04 mean to respond in real time.

CTRL: driving mode of the relay (ON, OFF)

DWL: time of auto response. (20S)

The setting procedures are as follows:

1) After entering the ALARM EXPORT submenu, move the joystick up and down to select the desired alarm area numbers (1-32). Turn the joystick clockwise to enter the alarm output setting of the selected alarm area.

2) Move the joystick left and right to select the desired items,and then move it up and down to set the value.

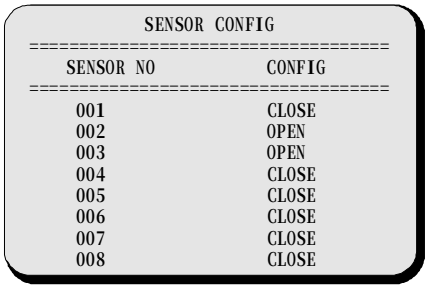
3) Move the joystick anticlockwise to quit the setting after completing the setting. Repeat above steps to set other alarm areas if necessary.

4) Move the joystick left to return previous menu,if no other items are needed to set.

3. Alarm sensor configuration

Enter the SENSOR CONFIG submenu as the following picture shown. It is to set the alarm mode of each alarm sensor.

OPEN means the alarm is activated when the circuit is open.
CLOSE means the alarm is activated when the circuit is closed.



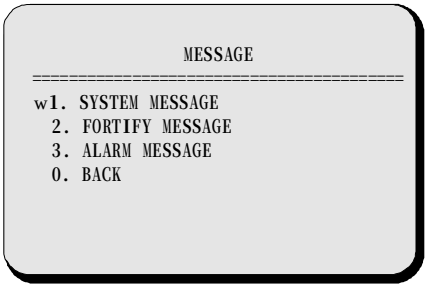
The setting steps are as follows:

1) Move the joystick up and down to select different area numbers,and then move it anti-clockwise or clockwise to set OPEN or CLOSE.

2) Move the joystick anti-clockwise to return previous menu, If no other items are needed to modify.

4. Message display

Enter the MESSAGE submenu as the following picture shown.



1) Move the joystick up and down to make the flashing cursor to the desired item. Turn the joystick clockwise to enter the setting or directly input the item number using the numeric keypad on the keyboard to enter the setting.

2) After entering one setting, press PREV and NEXT to turn over pages.

3) If no item is needed to change,press the 0 numeric button or move the joystick up and down to make the cursor position to 0, and then move it right to return the previous menu.

NOTE:

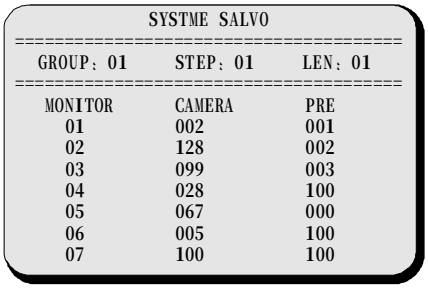
1) The system message recorded the time of the lastest five times turning on/off.

2) The alarm arming/disarming information recorded the lastest 1024 operations, including the alarm area number, date and time of each arming/disarming operation.

3) The alarm events recorded the latest 1024 ones,including alarm area number, date and time of each alarm event.

11.9 System Salvo

Enter SYSTEM SALVO submenu as the following picture shows.



The list is used to program or edit the salvo switch sequence. Salvo switch means to simultaneously switch different video in the designated monitor. The system can program 16 groups of salvo switch sequences,each of which has a maximum of 64 steps. Each monitor can display any preset of any camera.

v NOTE: When setting or editing a program, the running salvo switch sequence will be stopped.

1) After entering the salvo switch setup, the GROUP number is flashing. Move the joystick up and down to select the GROUP number (1-16).

2) Move the joystick clockwise to make the cursor to the STEP number. This setting is flashing,and then select the desired number (1-64) by moving the joystick up and down or directly input the item number using the numeric keypad on the keyboard.

3) Turn the joystick clockwise to enter the program list as above picture shows.

v NOTE: If the sequence has been edited, the details will be displayed; if not, only STEP and LENGTH is displayed nil.

4) Move the joystick anticlockwise and clockwise to select MON, CAM, PRE settings. Move the cursor to the desired items ,and then move the joystick up and down to modify their values.

5) Insert a step: move the joystick to select the step that is to be inserted after.Take STEP0005 for example,press the NEXT key on the keyboard for more than 2 seconds,that is, insert a step STEP0006 after STEP0005. The STE0005 and the above steps remain unchanged,whereas the original numbers of all the steps after STEP0005 will be changed by adding 1.The step inserted is STEP0006.Now the original length is added 1.

6) Delete: move the joystick up and down to select the position. Take STEP0005 For example, press PREV key on the keyboard for more than 2 seconds to delete STEP0005. The 4 steps before the original STEP0005 remain unchanged, whereas the step numbers after the original STEP0005 will be changed by decreasing 1.

7) After completing all the above settings, turn the joystick anticlockwise to return the GROUP number and STEP menu.

8) Select another GROUP number and repeat above steps to edit if necessary.Turn the joystick anticlockwise to complete the setting and quit.

12 KEYBOARD OPERATIONS

12.1 Video Switching Control

1. Manual switching

To display a video in a certain monitor.

OPERATION: Press X -CAM

(X: 1-32 ,camera ID; 1-CAM1 32-CAM32)

EXAMPLE: to display CAM4 to the current monitor.

OPERATION: Press 4 -CAM.

2. Choose monitor

OPERATION: Press X- MON

(X: 1-8, monitor ID; 1-MON1 8-MON8)

EXAMPLE: to choose MON4 as the current monitor.

OPERATION: Press 4 -MON.

3. Camera sequential scan

1) Set scan range

To display videos of cameras by numeric sequence with switching on the current monitor.

OPERATION: Press X PREV Y NEXT.

(X- start camera ID, Y-end camera ID)

If x=y: invalid command

If x>y: scan from x, one by one to y with a reverse sequential turn, lastly go back to x and cycle.

If x<y: scan from x, one by one to y with a forward sequential turn, lastly go back to x and cycle.

NOTE: X,Y must be set simultaneously. If not,the default setting is 1-32.

EXAMPLE: to switch No.3 camera to No.8 camera

OPERATION: press : 3 -PREV- 8 -NEXT

2) Run camera sequential scan

OPERATION: Press SHIFT - X - SCAN

(X: dwell time in each camera video, within the range of 1 to 255 seconds)

EXAMPLE: to run camera sequential scan on the current monitor with dwell time of 3 seconds.

OPERATION: Press SHIFT - 3 - SCAN.

3) Stop camera sequential scan

OPERATION: press SHIFT - 0 - SCAN

4. Previous camera

To display the previous camera video by ID number sequence, press PREV.

5. Next camera

To display the next camera video by ID number sequence, press NEXT.

6. Salvo switch

To run the programmed salvo switch:

1) Set dwell time

OPERATION: Press SHIFT - X - DWELL.

(X: dwell time in each step, within the range of 1 to 255 seconds)

NOTE: The default dwell time for each step is 3 seconds. The set dwell time is effective for each salvo switch sequence group (1-16). Even if a salvo switch sequence is running, the user can set the dwell time.

2) Run salvo switch sequence

OPERATION: Press SHIFT - X - PATTERN.

(X: salvo switch sequence group number, within the range of 1 to 16)

NOTE: The sequence group must be a programmed one, otherwise you will hear a sound of BEEP and no operation is activated.

3) Stop salvo switch sequence

OPERATION: Press SHIFT - 0 - PATTERN.

7. Tour switch

1) Activate tour: to run the tour on a certain monitor .

OPERATION: Press figure (monitor number) - MON - SHIFT - Y (tour group number) - TOUR.

EXAMPLE: to run Tour Group 3 on the MON2, the operations are as follows: Press 2 (monitor number)- MON - SHIFT - 3(tour group number) - TOUR.

NOTE: The sequence group must be a programmed one.

2) Exit tour

OPERATION: Press figure (monitor number) - MON - SHIFT - 0 (tour group number) - TOUR.

(X- 1-8, monitor number)

EXAMPLE: to exit running tour on the MON2:

OPERATION: Press 2 (monitor number)- MON - SHIFT - 0(tour group number) - TOUR

NOTE: Set Tour Group number to 0 to quit this menu.

12.2 Pan/Tilt Control

1. Direction Operation

1) Move the joystick to achieve the up, down, left, right and up-left, down-left, up-right, down-right movements of the Pan/Tilt.

EXAMPLE: to achieve the UPWARD of the Pan/Tilt

OPERATION: Press X (camera ID) - CAM , then move the joystick upward.

2. Autopan

This is to control the Pan/Tilt to pan automatically.

1) Set left limit: Press SCAN - 0 - ENTER

OPERATION: move the joystick to reach the left limit of view, then press SCAN - 0 - ENTER , the left limit is set.

2) Set right limit: Press SCAN - 1 - ENTER

OPERATION: move the joystick to reach the right limit of view, then press SCAN - 1 - ENTER and the right limit is set.

3) Run Autopan: Press X - CAM - Y - SCAN (X-camera ID; Y-scan velocity, 1-255)

EXAMPLE: to run Autopan in CAM3 at the highest velocity:

OPERATION: Press 3 - CAM - 255 - SCAN, the autopan will run continuously.

4) Stop Autopan of a certain camera: Press X - CAM - 0 - SCAN (X-camera ID)

EXAMPLE: stop autopan in CAM3:

OPERATION: Press 3 - CAM - 0 - SCAN.

3. Set and call preset

The camera can store up to 220 presets which store the pan/tilt angles and lens parameters(zoom) into the dome receiver memories. If necessary the preset can be called up.

1) Set preset: The angle, zoom and focus settings for the camera are stroed into a preset number settings in the purpose of callup.

OPERATION: Press X - CAM - PRESET (X-camera ID) ,hold for more than 2 seconds to enter keyboard menu,and then press SET to complete.

EXAMPLE: Set two presets 1 & 2 in the CAM1

OPERATION: Press 1(camera ID) - CAM - PRESET, hold for more than 2 seconds to enter the keyboard menu, move the joystick to focus the desired place which you want to set for preset 1,and then press 1- ENTER to save preset 1.Repeat above steps to set preset 2.Finally press SET to complete.

NOTE: A maximum of 220 presets can be set. If the new preset and the old one is the same, new camera parameters will replace old one.

2) Callup preset: This function allows to call preset position quickly.

OPERATION: Press X - CAM - Y - PRESET (X-camera ID, Y-preset number)

EXAMPLE: To turn the CAM2 to the No. 5 preset position

OPERATION: Press 2 - CAM - 5 - PRESET .

NOTE: The preset must be programmed, otherwise all operation are valid.

4. Tour

1) Set preset tour

This is to display the presets one by one with a programmed sequence. Up to four tours can be programmed,each which contains presets within a range from 1 to 100.

OPERATION: Press TOUR and hold it for more than 2 seconds to enter the keyboard menu, and then press SET .

2) Activate tour

OPERATION: Press t - DWELL - x - TOUR (T-dwell time ; Y- tour number).

EXAMPLE: To activate preset tour no.4 in the CAM2 with dwell time of 3 seconds for each preset:

OPERATION: Press 2 (CAM ID) - DWELL -3-DWELL- 4 - TOUR.

3) Delete tour

This is used to clear programmed tour.

OPERATION: Press TOUR - X - DEL. (X- preset tour number)

EXAMPLE: To delete the tour no.3

OPERATION: Press TOUR - 3(tour number) - DEL.

5. Pattern

1)Pattern record

OPERATION: Press PATTERN(2s) - X - ENTER (X: pattern number ranging from one to four)

Press PATTERN and hold it for more than 2 seconds, then press pattern number ,finally press ENTER.

Use joystick and keyboard keys to send a serious of commands to dome camera as scheduled. The commands are recorded.

Explanation: the pattern recording is only applicable to the operation of Pan/Tilt and lens commands.

End pattern recording:

OPERATION: Press PATTERN - 0 - ENTER.

Explanation: If the recording time exceeds the permitted range, the camera will stop recording automatically.

2) Pattern replay

OPERATION: Press X - PATTERN (X-pattern number).

6. Home position

1) Set home position

OPERATION:Press T - DWELL - X - PRESET

Explanation: T: dwell time within the range of 1 to 255 .

X: preset number

2) Delete home position

OPERATION: Press 0 - DWELL - 0 - PRESET .

12.3 Lens Control

1. Iris control (OPEN CLOSE)

Open or close the iris of lens to control the light input to the camera.

OPERATION: Press X (camera ID) - CAM - OPEN

Or

Press X (camera ID) CAM CLOSE .

EXAMPLE: To open the iris of CAM1

Operation: Press 1 - CAM - OPEN .

2. Focus (FAR NEAR)

The focus (FAR) or focus (NEAR) can be adjusted to make the image more clear on the monitor.

OPERATION: Press X (camera ID) - CAM - FAR

Or

Press X (camera ID) - CAM - NEAR.

EXAMPLE: to adjust the focus of CAM2, the operation is:

OPERATION: Press 2 - CAM - FAR

or

Press 2 - CAM - NEAR.

3. Zoom (WIDE TELE)

The zoom can be adjusted to get a WIDE or TELE view.

OPERATION: Press X (camera ID) - CAM - WIDE

Or

Press X (camera ID) - CAM - TELE.

EXAMPLE: to adjust the zoom of CAM3 to get a TELE view,

OPERATION: Press 3 - CAM - TELE.

12.4 Arm/ Disarm

1. Arm individual alarm

OPERATION: Press ALARM - X - NEXT (X-alarm area number)

EXAMPLE: To arm an individual alarm in alarm area no. 3

OPERATION: Press ALARM - 3 - NEXT .

2. Disarm individual alarm

OPERATION: Press ALARM - X - PREV (X-alarm area number)

EXAMPLE: To disarm an individual alarm in alarm area no. 3

Operation: Press ALARM - 3 - PREV

3. Arm all alarms

OPERATION: Press ALARM - 0 - NEXT

4. Disarm all alarms

OPERATION: Press ALARM - 0 - PREV .

NOTE: If there is an alarm event in an unarmed area, the alarm signal will not be transmitted to the matrix system, but the alarm indicator on the front panel of matrix will be lit. If switching to the video of the dome camera in the unarmed area now, user can find ARM appearing and flashing in the System Status Display area on monitor.

12.5 Alarm Event

When an alarm event appears, the system will respond as follows:

1. Activate alarm status:

1) Send the alarm video to designated monitor for display and notify the designated response keyboard in the system.

2) Activate linkage alarm equipment.

2. All opeations will be stopped in the case of arising alarm event, if the designated monitor to display the alarm videos is now running salvo switch, standard sequence switch or camera sequential scan.

3. When any user is setting the program, and if there is an alarm event coming, the setting will be stopped unconditionally .

4. The system automatically records the area numbers, time and dates of all alarm events .

12.6 Disarm Alarm Signal

1. With the manual alarm response mode, use the designated response keyboard to respond to the alarm video on Designated Monitor .

OPERATION: press ALARM .

Designated Monitor is the monitor designated to display alarm videos. When the designated response keyboard is conducting video display on non-designated monitor and there is alarm signals coming, the keyboard will switch to alarm video displayed on Designated Monitor immediately. Under Auto-build Alarm Mode, the user should switch the response keyboard to the designated Mon#1 and Mon#2 separately to clear the alarm videos.

2. Disarm all alarm signal.

OPERATION: press 255 ALARM

3. Under the automatic alarm response mode, the system will clear the alarm automatically if no manual alarm response is conducted after 20 seconds from the appearance of the alarm event.

4. The system can not carry out before all alarms are disarmed.

12.7 Screen Characters Display Control

The matrix can control screen display internal commands and turn on/turn off any or all the screen display through keyboard commands.

1. Open/close time display: 120+SET
2. Open/close “V_off” display: 121+SET
3. Open/close “ARM” display: 122+SET
4. Open/close camera title display: 124+SET
5. Open/close full screen display: 125+SET
6. Open/close video channel: SHIFT+SET+MONITOR+ EXIT

12.8 Call Macro Command

OPERATION: 10x+SET

X is macro number, efective value 1-8.

Example:

OPERATION: 102+SET

Function: Call No.2 macro command.

13 ERROR MESSAGES

Error No. 01 Monitor locked

The monitor requested cannot be accessed because it is locked by a user with higher priority.

Error No. 02 Camera locked

The camera requested cannot be accessed because the user has no right to manage the camera.

Error No. 03 Camera locked

The camera requested cannot be accessed because the user has no right to control the camera.

Error No. 04 Camera under control

The camera is being controlled by another user with higher priority. Please wait.

Error No.05 Invalid camera request

The camera number entered is not registered and does not exist.

Error No.06 Camera access right transferred

The access right of the camera is transferred to a user with higher priority. Please wait.

Error No.07 Invalid monitor request

The monitor number entered from keyboard is out of range allowed by the system.

Error No.08 Invalid camera request

The camera number entered from keyboard is out of range allowed by the system.

Error No. 09 Setup stopped

There is alarm event at the moment. Setup is stopped.

Error No.10 Keyboard number not registered

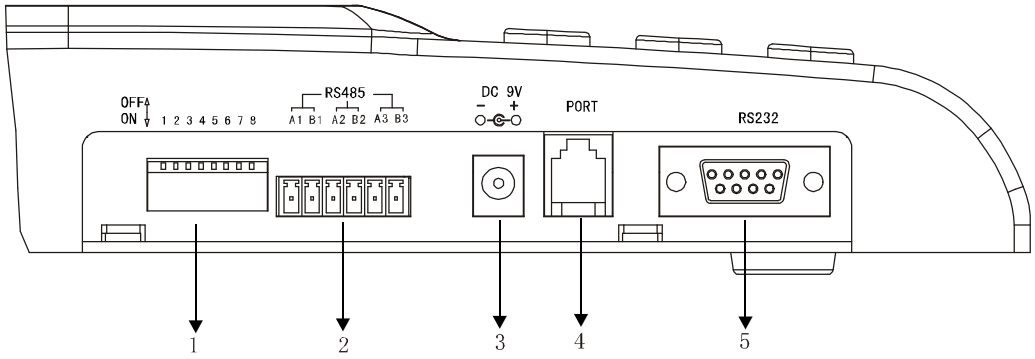
Error No.11 Incorrect password

14 APPENDIX

14.1 Keyboard Command Table for Dome

Items		Functions	Commands	Remarks
Select the desired dome			(C) + (CAM)	
Select the desired monitor			(M) + (MON)	Valid only when matrix is connected to the system
Enter the keyboard menu			Press or hold SET for 2s	
Dome Commands	Preset	Set preset	Press or hold PRESET for 2s to enter the menu	
		Recall preset	(P)+(PRESET)	P: Desired preset NO
	Home position	Set	(W)+(DWELL)+(P)+(PRESET)	W: Interval before turning to home position(seconds)
		Delete	(0)+(DWELL)+(0)+(PRESET)	
	Auto tour	Set tour	Press or hold "TOUR" for 2s to enter menu	
		Start	(D)+(DWELL)+(T)+(TOUR)	D: Dwell time on the preset
		Delete tour	(TOUR)+(T)+(PREV)	T: Tour No(1-4)
	Auto scan	Set left limit	(SCAN)+(0)+(ENTER)	
		Set right limit	(SCAN)+(1)+(ENTER)	
		Start	(V)+(SCAN)	V: Scan speed
	Pattern	Start record	(PATTERN)+(PN)+(ENTER)	PN: Pattern No
		Stop record	(PATTERN)+(0)+(ENTER)	
		Replay	(PN)+(PATTERN)	
	Camera parameter setting		(SET)+(CM)+(SHIFT+(PR)+(ENTER)	CM: Command number
				PR: Parameter value

14.2 Keyboard Connection



1 DIP Switch

Bit1--Bit5 are to set different connections.If keyboard is connected to matrix, set Bit1--Bit5 as "OFF"; otherwise set Bit1--Bit3 as "OFF" and set Bit4--Bit5 as "ON" .

Bit6--Bit8 are for termination impedance settings. User can set them as required: If Bit6 is set as "ON", termination impedance is connected to RS485 Bus (A1--B1).If Bit7 is set "ON",termination impedance is connected to RS485 Bus (A2--B2);If Bit8 is set as "ON", termination impedance is connected to RS485 Bus (A3--B3).

NOTE: Switch power off before the above settings.

2 RS485 connection port

Three groups of RS485 output (A1--B1, A2--B2, A3--B3); A2--B2 are used to control the dome.

3 Power port

It is for DC9V power supply connection. Refer to above for the "+"& "-" polarity position.

NTOE: When the matrix keyboard is connected to the matrix, power is supplied to the keyboard by the matrix. There is no need to connect power supply to the power port of the keyboard.

4 Matrix-keyboard connection port

This port is for the connection between the matrix and the keyboard.

5 RS232 port (Consol)

It is for PC connection to control equipments such as multiplexer.

14.3 Keyboard Command Table for Matrix

	Item	Functions	Commands	Remarks
Matrix Commands	Setting	Enter setting menu	[SHIFT]+[SET]	
	Sequential scan switch	Scanning scope	[X1]+[PREV]+[X2]+[NEXT]	X: Camera No.
		Start switch	[SHIFT]+[X]+[SCAN]	X: Speed
		Stop switch	[SHIFT]+[0]+[SCAN]	Speed=0
	Skip	Set skip	[SHIFT]+[X]+[PREV]	X: Camera No.
		Delete skip	[SHIFT]+[0]+[NEXT]	X: Camera No.
	Standard sequence switch	Start switch	[SHIFT]+[X]+[TOURS]	X: Group No.
		Stop switch	[SHIFT]+[0]+[TOURS]	X=0
	Salvo sequence switch	Start switch	[SHIFT]+[X]+[PATTERN]	X: Group No.
		Stop switch	[SHIFT]+[0]+[PATTERN]	X=0
	Manual switch	Previous camera	[PREV]	
		Next camera	[NEXT]	
	Arm/Disarm alarm	Arm one area	[ALARM]+[X]+[NEXT]	X: Area No.
		Disarm one areas	[ALARM]+[X]+[PREV]	X: Area No.
		Arm all areas	[ALARM]+[0]+[NEXT]	
		Disarm all areas	[ALARM]+[0]+[PREV]	
	Select monitor	Select monitor	[X]+[MON]	
	Video switch	Switch to one camera video	[X]+[CAM]	
	Alarm Acknowledgement	Alarm response	[ALARM]	For corresponding monitor and keyboard
	All Alarms Acknowledgement	Alarm response	255+[ALARM]	
	Password Change	Change password	[SHIFT]+[OPEN]	
	Log out	User logs out	[SHIFT]+[CLOSE]	
	On/Off time		120+SET	120
	On/Off VOFF		121+SET	121
	On/Off ARM		122+SET	122
	On/Off CAM		123+SET	123
	On/Off MON		124+SET	124
	On/Off all screen display		125+SET	125

14.4 Communication between PC and Matrix

14.4.1 Control matrix via PC

This software is for PC control to the matrix via RS232 port. Functions are shown below.

Items	Function	command No.	command parameter
Sequential scan switch	Scanning scope	11,12	X1,X2=Camera No.
	Start switch	4	Speed=X
	Stop switch	4	Speed=0
Standard sequence switch	Sart switch	14	X=Group
	Stop switch	14	X=0
Salvo sequence switch	Setting dwell time	18	X=Time
	Start switch	10	X=Group
	Stop switch	10	X=0
Manual switch	Previous camera	8	0
	Next camera	9	0
Video switch	Switch to one camera video	1	X=Camera No.
On/Off Switch	120+SET	22	120
On/Off VOFF	121+SET	22	121
On/Off ARM	122+SET	22	122
On/Off CAM	123+SET	22	123
On/Off MON	124+SET	22	124
On/Off all screen display	125+SET	22	125

14.4.2 Matrix multimedia configuration software

This software is implemented for PC read or set multimedia information for matrix. PC communications with matrix via RS232 port, it can backup the matrix's information and configuration and save as file or reversely upload the file to set up the matrix